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SUBJECT-MATTER INDEX

OF

PATENTS FOR INVENTIONS

(ATTESTATI DI PRIVATIVE INDUSTRIALI)

GRANTED IN

ITALY

FROM 1848 TO MAY 1, 1882.

TRANSLATED, COMPILED, AND PUBLISHED UNDER AUTHORITY OF THE COMMISSIONER OF PATENTS.

WASHINGTON:
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PREFATORY NOTE.

This volume has been prepared, like a similar one for the French patents, already published, to make more available the collection of Italian patents in the Patent Office Library. It is arranged under one subject-matter index, dictionary form, as the simplest way of referring to the Italian "Attestati di Privative Industriali," and they conform as nearly as possible to the plan of the index of patents in the United States Patent Office.

Abbreviations are used in the references to volume and page as well as month, in order to save space, of which illustrations will be found on the first page of the index. These are fully described in the "Explanations," which also include the plan of numbering used in the "Descrizione delle machine," etc., and the "Bollettino." Unless this is clearly understood some confusion may arise as to the references made and the serial numbering.

The alphabetical lists of patentees found in the volumes of the "Bollettino" and in the "Elenco" have been thought sufficient, and are therefore omitted here.

LIBRARY UNITED STATES PATENT OFFICE,
January 21, 1885.

EXPLANATIONS.

This Index includes three sets of patents: those granted in Italy under the law of 1864, previous to May 1, 1882, and published in the "Bollettino delle Privative Industriali del Regno d'Italia"; Sardinian and Italian patents granted between May 19, 1855, and February 23, 1864, published in the "Descrizione delle Macchine, etc., per cui vennero accordati Attestati di Privativa," of which there is as yet no copy in the Library of this Office; and patents granted by Sardinia between January 1, 1848, and May 19, 1855, as given in the British Commissioners of Patents' Journal.

This latter category is designated in this Index by an asterisk (*), and numbered serially; those between 1855 and 1864 are also designated by an asterisk (*), and numbered, as well as those after 1864, according to the numbering adopted in the Italian Government publications—that is, serially in volumes, so called, of five hundred patents each. (Care must be taken to distinguish these volumes from the volumes of the "Bollettino.")

This numbering is consecutive, with the exception that the last patent before the law of 1864 went into force was volume 4, number 202, and instead of continuing and numbering the next patent volume 4, 203, it was called volume 5, number 1.

This numbering appears between parentheses in this Index.

Italian patents have, besides this style of numbering, another perfectly consecutive serial numbering, which was, with very few exceptions, entirely inaccessible to the compiler of this Index.

The numbering outside the parentheses refers to the series, volume, and article of the "Bollettino." Thus: "II, **10**, 435 (**22**, 135), pl. 124," means "Bollettino second series, volume 10, article number 435, serial numbering volume 22, number 135, plate 124."

The correspondence between the contents of the "Bollettino" and the numbering of the patents is as follows:

First series (containing laws, rules of practice, reports, etc., in addition to patents):

Vol. 1 (1864), Nos. 65–563.	Vol. 5, Nos. 1–500.
Vol. 2 (1865), Nos. 17–342.	Vol. 6, Nos. 1–326.
Vol. 3 (1866).	Vol. 6, No. 327.—Vol. 7, No. 138.
Vol. 4 (1867).	Vol. 7, No. 140.—Vol. 8, No. 70.
Vol. 5 (1868).	Vol. 8, No. 71.—Vol. 9, No. 16.
Vol. 6 (1869).	Vol. 9, Nos. 17–498.

Second series (patents only):

Vol. 1 (1870).	Vol. 10, Nos. 1–422.
Vol. 2 (1871).	Vol. 10, No. 423.—Vol. 11, No. 400.
Vol. 3 (1872).	Vol. 11, No. 401.—Vol. 12, No. 480.
Vol. 4 (1873).	Vol. 12, No. 481.—Vol. 14, No. 109.
Vol. 5 (1874).	Vol. 14, No. 110.—Vol. 15, No. 268.
Vol. 6 (1875).	Vol. 15, No. 269.—Vol. 16, No. 452.
Vol. 7 (1876).	Vol. 16, No. 453.—Vol. 18, No. 87.
Vol. 8 (1877).	Vol. 18, No. 91.—Vol. 19, No. 355.
Vol. 9 (1878).	Vol. 19, No. 356.—Vol. 21, No. 200.
Vol. 10 (1879).	Vol. 21, No. 201.—Vol. 23, No. 101.
Vol. 11 (1880).	Vol. 23, No. 102.—Vol. 25, No. 50.
Vol. 12 (1881).	Vol. 25, No. 51.—Vol. 27, No. 272.

A few words seem necessary in explanation of the abbreviations used. Ex. means extended, usually in time; but occasionally, about the time of the annexation of other Italian states, it means

extended in territory. These extensions are never accompanied by a description. Ad. means additional patent, and Alt. means alteration, a species of disclaimer. These are always fully described.

P. P., Pontifical patent; P. G., Pontifical grant; R. G., royal grant; either extended to all Italy or status changed to that of a regular patent. There are also cases of Austrian (Lombardo-Venetian) and Neapolitan patents extended to Italy fully described.

For convenience of reference, and to enable the investigator to know when he has exhausted a subject, a list of classes of inventions as used in this Office has been prefixed to this Index, giving under each all the initial words under which any reference is found to subject-matter belonging to the class in question.

In references in the body of this work the following order is observed for patents appearing in the "Bollettino":

Subject of invention in ordinary type,
Patentee in antique,
Date—months abbreviated, as shown on page 1,
{ I, 1st series 1864–1869,
{ II, 2d series 1870——,
Number of volume of "Bollettino" in antique, and article in said volume in ordinary,
Volume and number of patent in parentheses,
pl., plate,
Similar references to additions and extensions in chronological order,
* indicates that the patent does not appear in the "Bollettino."

INITIAL HEADINGS CLASSIFIED.

40. Advertising.
Advertising, Card, business, Catalogue, Newspaper, Sign, Street.

1. Aeration and Bottling.
Aërated, Aërating, Bottle, Bottling, Decanting, Gas-generator, Soda, Wine.

123. Air and Gas Engines.
Aëro-electric, Aëro-hydraulic, Air and steam, Air-engine, Air, gas, and steam, Ammonia, Caloric, Ether, Gas, air, and steam, Gas-engine, Gas-water engine, Marine air, Petroleum, Solar motor, Steam, air, and gas, Steam and hot air.

2. Apparel.
Bead stringing, Chest-protector, Cloth perforating, Cloth scalloping, Cloth sample-cutter, Clothes-cutter, Clothing, Coat, Collar, Cuff, Drawers, Embroidery, Fur, Glove, Lung-protector, Pattern, Perforating, Plaiting, Pocket, Scalloping, Shirt-bosom, Shroud, Skirt, Trowsers-protector, Undergarment, Waistcoat.

86. Arms and Projectiles, making.
Bayonet, Fire-arm, Ordnance, Scabbard, Side-arm.

166. Artesian and Oil Wells.
Well.

3. Artificial Limbs.
Leg, Splint.

106. Artificial Stone, Lime, and Cement.
Building-block, Building materials, Calcining, Cement, Chalk, Lime, Marble, Marbleizing, Mortar, Plaster, Plastering, Stone.

4. Baths and Closets.
Bath, Bathing, Cesspool, Cistern, Disinfecting, Earth-closet, Sewer, Sewerage, Urinal, Wash-stand, Water-closet.

5. Beds.
Bed, Bedstead, Cradle, Cushion, Extension, Hammock, Invalid-supporter, Mattress, Netting, Quilt, Quilting.

6. Bee-culture.
Beehive.

8. Bleaching and Dyeing.
Agate, Albumen, Alizarine, Aniline, Anthraceue, Bleaching, Bone painting, Cloth albumenizing, Cloth washing, Dye, Dyeing, Fiber bleaching, Indigo, Ink, Madder, Mordant, Mordanting, Thread, Vermicelli, Wool.

9. Boats.
Bathing, Boat, Buoy, Float, Life-boat, Life-preserver, Life-saving, Oar, Swimming.

11. Book-binding.
Album, Book, Book-binding, Guide-book, Ruling, Statistical, Writing-tablet.

12. Boots and Shoes.
Boot, Gaiter, Glove-fastening, Heel, Lacing, Last, Pincers, Shoe, Sole.

13. Brakes and Gins.
Brake, Cotton, Flax, Hemp, Oakum, Rope, Tow.

107. Bread, Cracker, and Lozenge, making.
Bread, Dough, Flour-mixer, Vermicelli.

7. Brewing and Fermenting.
Barrel-sulphurizer, Beer, Brewing, Desulphurizing, Fermenting, Germinating, Malting, Mash, Must, Tartar, Wine, Yeast.

14. Bridges.
Bridge, Column, Ford, Girder, Iron girder.

15. Brushing and Scrubbing.
Boot-brushing machine, Broom, Brush, Chimney sweeping, Street-sweeper.

16. Builder's Hardware.
Bell, Burglar-alarm, Caster, Door-fastener, Pick-pocket-alarm, Sash.

***17. Butchering.**
Meat, Sausage.

18. Caoutchouc and Minor Plastics.
Asbestos, Button, Coating, Composition, Horn, India rubber, Ivory, Molding, Mosaic, Ozokerite, Pearl-shell, Plastic, Talc.

19. Carding.
Card, textile, Carding, Combing. Cotton, Fibre, Grapevine, Mulberry, Palm-leaf, Textile, Wool.

119. Care of Live Stock.
Horse, Incubator, Straw-cutter.

20. Carpentry.
Architrave, Barracks, Building, Carpentering, Carpet, Carriage-door, Cork coating, Decorating, Decoration, Door, House, Inlaying, Joint, Ladder, Sash, Scaffold, Shutter, Skylight, Warehouse, Window.

21. Carriages and Wagons.
Ambulance, Axle, Carriage, Cart, Circus, Felly, Gas-velocipede, Invalid-supporter, Metallic wheel, Military, Omnibus, Tire, Traction-engine, Transportation, Transporting, Truck, Vehicle, Velocipede, Wagon, Wheel, Wheel-barrow, Whiffletree.

59. Chains, Staples, and Horseshoes.
Chain, Horseshoe, Oxshoe, Staple.

155. Chairs.
Chair, Cushion, Sea-weed, Seat, Spring-seat, Stool, Upholstery.

23. Chemicals.
Acetone, Acid, Alkali, Aluminate, Aluminium, Ammonia, Ammonium, Barium, Bromide, Calcium, Carbon, Carbonizing, Charcoal, Chlorate, Chloride, Chlorine, Cinuamic, Collodion, Copper, Cyanide, Decomposition, Distilling, Ferrocyanide, Hydrogen, Iodide, Iodine, Iron, Lead, Magnesium, Mercury, Metal dissolving, Metal oxide, Metal sulphide, Nitrate, Nitrogen, Nitrous, Oxygen, Ozone, Perfume, Phosphorus, Potash, Potassium, Sheep washing, Silicon, Soda, Sodium, Solution, Steam-boiler incrustation, Strontium, Sulphate, Sulphocyanide, Sulphur, Tannin, Tartrate, Vinegar, Volcanic, Water clarifying, Wood, Zinc.

24. Clasps and Buckles.
Braces, Buckle, Button, Clothing, Key-ring, Metallic fastening, Napkin-fastener, Necktie-fastener, Pickpocket-alarm, Suspenders, Ticket, Traveling.

25. Clay and Pottery.
Brick, Calcining, Clay, Crucible, Drain-pipe, Lime, Pipe, Pottery, Retort, Sarcophagus, Tile, Tombstone, Tube.

26. Cloth Finishing.
Cloth.

96. Coating with Metal.
Bronzing, Cobalt, Copper, Electric current, Electro-coppering, Electro-gilding, Electrolysis, Electro-metal coating, Electro-nickeling, Electro-plastic, Electro-plating, Electro-silvering, Galvanizing, Gilding, Lead pipe, Metal bronzing, Metal cleaning, Metal coating, Metal renovating, Mirror silvering, Nickel plating, Photo-electrotypy, Photo-galvanography, Platinum, Silver, Tinning, Wire coating, Zinc.

27. Coffins.
Coffin.

154. Composite Roofing.
Asphalt, Roofing.

147. Coopering.
Barrel.

28. Cordage.
Bottle-cover, Cordage, Enveloping, Fishing-line, Rope, Rush, Spooling, Warping, Winding.

29. Crinoline and Corsets.
Corset, Hoop-skirt.

156. Curtain-Fixtures.
Blind, Curtain.

30. Cutlery.
Animal shears, Can-opener, Cattle shears, Clipping-shears, Fork, Knife, Razor, Shearing, Shears, Sheep-shears, Vine.

31. Dairy.
Butter, Centrifugal machine, Cheese, Churn, Cream, Milk.

32. Dentistry.
Palate, Teeth.

124. Distillation.
Acid, pyroligneous, Alcohol, Alcoholizing, Benzine, Bitumen, Coal-tar, Distilling, Liqueur, Petroleum, Resin, Resinous, Tar, Turpentine, Vapor, Water distilling.

33. Drafting.
Cipher, Compasses, Curve, Drawing, Geometric, Ruler.

34. Driers.
Drier, Drying, Flour, Fruit, Fuel, Grain, Lignite, Olive, Tan, Tannin, Vegetable, Wool.

35. Educational Appliances.
Alphabet-blocks, Educational, Geometric, Map, Model, Trigonometer.

36. Electricity.
Aëro-electric, Annunciator, Burglar-alarm, Cable, Car-brake, Carriage, Casting, Divining, Dynamo, Electric, Electro, Electrometer, File cutting, Insulating, Insulator, Lightning, Log, Magnet, Magneto, Microphone, Needle pointing, Organ, Phonograph, Steering, Telegraph, Telephone, Thermo.

37. Excavating.
Coral-dredge, Dredge, Earth, Excavating, Excavator, Submarine excavator.

52. Explosives.
Blasting-powder, Explosive, Gunpowder, Match.

168. Farriery.
Horseshoe.

38. Felting and Hats.
Cap, Felt, Fulling, Hat, Head-dress, Hood, Thread felting.

39. Fences.
Fence, Gateway, Railing, Telegraph-post, Wire-stretcher.

71. Fertilizers.
Fertilizer, Night-soil, Odorless, Sewage.

41. Fine Arts.
Canvas, Cloth decorating, Copying, Decoration, Design, Easel, Engraving, Etching, Feather, Flower, Inlaying, Metal ornamenting, Metal ornamentation, Metallic ornamentation, Model, Mosaic, Ornamenting, Painting, Picture, Pompon, Portrait, Sculptor, Sculpturing, Theatre, Zinc engraving.

42. Fire-arms.
Bayonet, Cartridge-retractor, Fire-arm, Gun, Pistol, Swab, Target, Weapon.

169. Fire-engines.
Fire-engine, Fire-extinguisher.

159. Fire-escapes.
Fire-escape.

43. Fishing and Trapping.
Ant-trap, Bellows, Caterpillar, Coral-dredge, Cricket-trap, Fish-trap, Fly-trap, Grape, Insect, Insecticide, Leach, Louse, Net, Oyster, Powder, Sulphurizer.

50. Fluid-Pressure Regulators.
Fluid-pressure regulator, Gas-pressure regulator, Pressure-regulator, Steam-pressure regulator.

44. Fuel.
Coal-dust, Fire-kindler, Fuel, Kindling, Peat, Tan.

45. Furniture.
Advertising-table, Book-case, Cabinet, Desk, Extension, Furniture, Mirror, Screen, Shelves, Table, Wardrobe, Writing-desk.

46. Games and Toys.
Billiard, Card, playing, Cup and ball, Game, Gymnastic, Hydrodynamic toy, Pigeon, Puzzle, Shooting-gallery, Skate, Toy.

47. Garden and Orchard.
Bell, Grapevine, Hedge, Hot-bed, Mushroom, Olive, Vine.

48. Gas.
Anthracite, Carbureter, Carbureting, Condensing, Gas, Hydrocarbon, Lighting, Lignite, Retort, Tar.

49. Glass.
Agate, Bead, Bottle, Chalcedony, Enameling, Encaustic, Glass, Glazing, Jewel.

51. Grinding and Polishing.
Comb, Comb-tooth, Cork, Emery, Flat-iron, Glass bead, Glass grinding, Glass tube, Granite, Grinding, Knife-cleaner, Plated, Polisher, Polishing, Razor-strap, Sand-cloth, Sand-paper.

53. Hardware, making.
Fork, Hook, Knife, Spiral, Spring, Steel.

54. Harness.
Bridle, Harness, Hitching, Horse, Rein, Saddle.

55. Harrows and Diggers.
Clod-crusher, Digger, Harrow, Spade.

56. Harvesters.
Grain-binder, Harvester, Hedge-trimmer, Lawn-mower, Mowing, Rake, Reaping.

149. Hides, Skins, and Leather, Chemical Treatment.
Asclepias, Hide, Skin, Tan, Tanning.

57. Hoisting.
Capstan, Crane, Elevator, Grain, Grapple, Hoisting, Invalid-supporter, Jack, Loading, Lowering, Mine, Mining, Passenger, Pulley, Tackle, Windlass.

58. Horology.
Chronograph, Chronometer, Clock, Metronome, Pendulum, Planetarium, Watch.

60. Hose and Belting.
Belt, Chain.

55. Household Articles.
Chafing-dish, Cheese-grater, Eating-house signal, Nut-cracker, Pad, Plate.

61. Hydraulic Engineering.
Air-compressor, Aqueduct, Breakwater, Caisson, Canal, Dam, Diving, Dock, Drainage, Harbor, Pile, River-bank, Sea-wall, Sluice, Submarine caisson, Submarine construction, Submarine explorer, Submarine foundation, Tide-motor, Water-course, Water-level, Waterfall, Wave.

138. Hydraulic Motors.
Centripetal, Hydraulic, Hydro-pneumatic, Hydrostatic, Liquid, Perpetual, Water-current motor, Water-mill, Water-motor, Water-power, Water-wheel.

162. Injectors and Ejectors.
Ejector, Injector.

63. Jewelry.
Armlet, Bracelet, Enamel, Enameling, Jewelry.

64. Journals and Bearings.
Bearings, Belt-tightener, Glass parts, Journal-bearing, Lubricating, Lubricator.

66. Knitting and Netting.
Gimp, Knit, Knitting, Knot, Lace, Trellis.

67. Lamps and Gas fittings.
Burner, Candlestick, Cane candlestick, Car-lighting, Chandelier, Cigar-lighter, Combustion, Gas fixture, Hydro-oxygen, Lamp, Lantern, Light, Lighter, Lighting, Match-box, Reflector, Warming-pan, Wick.

68. Laundry.
Clothes-beater, Clothes-drier, Flat-iron, Fluting, Ironing, Mangle, Wash, Washing.

69. Leather.
Hide, Leather.

70. Locks and Latches.
Ammunition-wagon, Handcuff, Knob, Lock.

115. Marine Propulsion.
Paddle-wheel, Propeller, Propelling, Ship.

72. Masonry.
Architrave, Building, Drainage, Fortification, Foundation, House, Light-house, Sewer, Wall, Warehouse, Water-tank.

73. Measuring Instruments.
Adding-machine, Air measuring, Alcohol test, Alcoholmeter, Angle, Astronomical, Balance, Barometer, Belt transmission, Calculating, Car-axle, Carriage, Circle, Cloth, Coin, Counting, Cork, Current, Distilling, Dynamometer, Gas-flame, Gas-meter, Grain-measurer, Grain-register, Grain-scale, Hygrometer, Hypsometer, Liquid-gage, Liquid-meter, Locomotive speed, Locomotive traction, Log, Lot, Lung, Match manufacture, Measure, Measuring, Odometer, Oil-tester, Passenger-register, Penholder, Pencil, Power, Pressure, Pyrometer, Railway speed, Railway-track, Rudder, Ship course, Ship speed, Sounding, Speed, Spinning-machine, Stamp, Starch, Steam-boiler register, Steam-boiler water-gage, Steam-engine indicator, Steam-engine register, Steam-engine speed, Steam-pressure, Thermometer, Thrashing-machine, Ticket, Voting, Water-current, Water-depth, Water-level, Water-meter, Weighing, Weights, Wine-color.

74. Mechanical Powers.
Animal-power engine, Carriage-propeller, Crank, Eccentric, Fly-wheel, Gearing, Gravity-motor, Hand-engine, Horse-mill, Horse-power, Inclined plane, India rubber, Lever, Machinery, Man-power, Motion, Motive, Motor, Ox-power, Pawl, Pendulum, Perpetual, Power, Spring, Transmission, Treadle, Wedge, Windmill.

167. Medicines.
Aërated, Balsam, Beverage, Capsule, Fur protecting, Grape curing, Grape-mold, Hair-restorative, Insecticide, Medicine, Oïdium, Pastille, Sulphurizing, Vine.

153. Metal Bending and Straightening.
Iron, Metal spiral spring.

77. Metal Boring and Drilling.
Drill, Drilling, Metal drilling, Ratchet.

78. Metal Forging.
Armor-plate, Copper, Forge, Hammer, Iron, Metal heating, Reheating, Stamp-hammer, Steel, Welding.

22. Metal Founding.
Casting, Copper, Iron, Metal casting, Metal pipe, Metal recasting, Molding, Steel.

79. Metal Personal Wear, making.
Button, Hoopskirt, Steel.

80. Metal Rolling.
Metal foil, Metal rolling, Railing, Railway-rail, Rolling, Sheet-iron, Sheet-metal.

10. Metal Bolts, Nuts, Rivets, and Screws.
Bolt, Nut-machine, Rivet, Screw.

148. Metal Tempering, Annealing, and Cementation.
Steel.

76. Metal Tools and Implements, making.
File, Rasp, Scythe, Steel.

134. Metal Tubing and Wire.
Iron, Metal pipe, Metal working, Steel, Wire.

82. Metal Turning, Planing, and Milling.
Gear-wheel, Lathe.

81. Metal-Working Tools.
Metal pipe, Screw-clamp, Screw-wrench, Tube-cutter, Vise, Wrench.

75. Metallurgy.
Acid, pyroligneous, Alloy, Aluminium, Amalgamator, Antimony, Arsenic, Blast-furnace, Brass, Bronze, Burner, furnace, Calcining, Cobalt,

75. Metallurgy—continued.
Coke, Copper, Crucible, Cupola-furnace, Electric calcining, Electrolysis, Friction-surface, Furnace, Gold, Iron, Lead, Manganese, Melting, Mercury, Metal extracting, Metal melting, Metal oxide, Metal reducing, Metal refining, Metal soldering, Metal sponge, Metallurgic, Nickel, Ore, Platinum, Puddling, Regenerator, Reheating, Retort, Reverberatory, Silicon, Silver, Smelting, Steel, Tin, Titanium, Tungsten, Tuyere, Type, Zinc.

83. Mills.
Bark, Bran-duster, Cement, Centrifugal, Coal-washing, Coffee, Corn, Cotton-seed, Crushing, Disintegrator, Flour, Gold, Grain, Iron ore, Middlings, Mill, Milling, Millstone, Mixer, Ore, Paint, Pulverizer, Separator, Stone, Sulphur, Sumac, Zinc.

84. Music.
Bombardone, Bugle, Clarinet, Cymbals, Drum, Electric organ, Flute, Guitar, Harmonica, Harp, Melodeon, Music, Musical, Organ, Piano, Trombone, Trumpet, Tuba, Tuner, Tuning, Violin, Whistle.

85. Nails and Spikes.
Nail, Tack.

163. Needles and Pins.
Needle, Pin.

151. Nut and Bolt Locks.
Nut-lock.

87. Oils, Fats, and Glue.
Acid, fatty, Acidifying, Barrel cementing, Bone, Butter, Candle, Cloth washing, Detergent, Distilling, Fat, Friction-surface, Gelatine, Glue, Gluten, Glycerine, Gum, Lubricating, Mastic, Oil, Oilcloth, Olive, Ozokerite, Paraffine, Saponifier, Sealing-wax, Soap, Stearine, Tallow, Taper, Washing compound, Wax.

88. Optics.
Camera, Compass, Eye-glass, Field-glass, Latitude, Level, Light, Microscope, Navigating, Optic, Pantoscope, Photometer, Quadrant, Spectacles, Stereoscope, Surveying, Telescope, Theodolite, Trigonometer.

89. Ordnance.
Battery, Coast defences, Ordnance, Shield.

150. Packing and Storing Vessels.
Aërated liquid, Barrel, Bottle, Box, Bucket, Bung, Can, Canteen, Cask, Chamber-pot, Flask, Gunpowder-box, Jar, Jewelry-case, Lunch-can, Match-box, Metal-box, Oil-can, Oil-holder, Oil-tank, Packing, Pepper-can, Petroleum, Plug, Pocket-flask, Powder-case, Preserve, Receiver, Sealing, Storing, Tank, Tin vessel, Vat, Vessel, Wine-barrel, Wooden box.

91. Painting.
Blacking, Color, Fire-extinguishing, Fireproof, Fireproofing, Horn-painting, Ink, Ivory, Lamp-black, Marble coloring, Metal protecting, Mineralizing, Paint, Painting, Phosphorescent, Pigment, Polish, Stencil, Submarine coating, Varnish, Varnishing, White.

92. Paper, making.
Armor-cloth, Broom, Bullrush, Calender, Coating, Cocoa, Cordage, Cork, Cotton rags, Dyewood, Fabric, Fibre, Hair, Jute, Leather, Mulberry, Paper, Papier maché, Pasteboard, Pulp, Rag-engine, Ramie, Rope, Sea-weed, Size. Submarine coating, Thread sizing, Waterproofing, Wood.

93. Paper Manufactures.
Card, visiting, Cop-tube, Counterfeiting, Envelope, Match-box, Paper, Pasteboard, Perforating, Seal, Wall-paper, Wrapper.

94. Paving.
Asphalt, Pavement, Paving, Road, Sidewalk.

95. Photography.
Camera, Heliotype, Photo-ceramic, Photo-electrotypy, Photo-galvanography, Photograph, Photographic, Photo-lithographic, Photo-mechanical, Photo-sculpture, Solar.

97. Plows.
Cultivating, Cultivator, Digger, Land, Plow.

98. Pneumatics.
Aërial navigation, Air-compressor, Air-purifier, Balloon, Bellows, Blast, Boat, Car, Carriage-propeller, Chimney, Elevator-balloon, Fire-damp, Gas-compressor, Mercury-engine, Pneumatic, Vacuum, Ventilating, Water-compressor.

99. Preserving.
Albumen, Almond extract, Antiseptic, Bergamot, Bread, Cake, Chestnut wood, Chocolate, Citron rind, Coffee, Concentrating, Corpse, Corn, Cracker, Disinfecting, Dough, Drying, Embalming, Essence, Essential, Extract, Extracting, Feed, Fig, Fluid, Food, Fruit, Honey, Jelly, Lemon, Liquid, Licorice, Meat, Milk, Olive, Orange, Panification, Pickled, Preserving, Saffron, Soup, Timber.

100. Presses.
Bale-tie, Baling, Cheese, Cider, Clay, Cloth, Compressing, Cotton, Filter, Fodder, Fruit, Grape, Hair, Hay, Oil, Olive, Press, Screw, Wine, Wool.

101. Printing.
Copying, Electrotyping, Lithographic, Numbering, Printer, Printing, Stamp, Stamping, Stenographic, Stereotype, Stereotyping, Surface, Type, Type-writer, Wall-paper, Zincography.

102. Projectiles.
Blasting, Bombshell, Cartridge, Fuse, Grenade, Projectile, Torpedo.

103. Pumps.
Liquid, Piston, Pump, Pumping, Water elevating, Water-elevator.

164. Punching and Shearing.
Bottle-cap, Coining, Metal cutting, Metal sawing, Metal stamping.

105. Railway-Cars.
Axle, Car, Locomotive, Railway-train, Tire, Transportation, Transporting.

104. Railways.
Cushion, Pneumatic, Railway, Snow-plow, Track laying, Traction.

62. Refrigeration.
Beer-cooler, Car, Cold, Cooler, Cooling, Corpse, Freezer, Freezing, Ice, Liquid, Refrigerating, Refrigerator, Snow, Wine-cooler.

108. Roofing.
Roof, Roofing, Tile.

111. Seeders and Planters.
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112. Sewing-Machines.
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113. Sheet-Metal Ware, making.
Metal soldering, Sheet-metal, Soldering.

114. Ships.
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116. Signals.
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117. Silk.
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118. Spinning.
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120. Stationery.
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160. Steam and Vacuum Pumps.
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122. Steam-Boilers.
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121. Steam-Engines.
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126. Stoves and Furnaces.
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127. Sugar and Salt.
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128. Surgery.
Abdominal, Atomizer, Bottle, Canula, Castrating, Catheter, Cupping, Ear, Electric brush, Expirator, Horse castrating, Inhaler, Medical, Medicated, Medicine, Nipple, Pestle, Respirator, Singer, Surgical, Syringe, Therapeutic, Thermo-cautery, Truss, Vaccine, Vacuum, Vaginal, Veterinary, Vulvo-vaginal, Wound dressing.

129. Tanning.
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130. Thrashing.
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131. Tobacco.
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132. Toilet.
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133. Trunks.
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— from Pancratium maritimum. **Giordano**. 31 D. 1861. (**3**, 143.)*—Ex. I, **1**, 427 (**5**, 364). **1**, 468 (**5**, 405).
— treating grain for. **Montagna**. 23 O. 1869. I, **6**, 386 (**9**, 402). Ad. II, **1**, 54 (**10**, 54)—Ex. **3**, 270 (**12**, 170).
liquid extracting, concentrating, preserving. **Barberis**. 3 Mr. 1873. II, **4**, 110 (**13**, 90)—Ex. **6**, 145 (**15**, 413).
methylic, manufacture. **Nobili e Paoletti-Perini**. 31 D. 1873. II, **4**, 621 (**14**, 101).
— **Parish**. 15 O. 1873. II, **4**, 505 (**13**, 485), pl. 144. Ad. **5**, 164 (**14**, 273).
purifying. **de Beaurepaire de Louvagny**. 7 My. 1874. II, **5**, 218 (**14**, 327), pl. 48.
rectifying. **Berlien**. 27 My. 1879. II, **10**, 302 (**22**, 2).
— **Claes et Rancq frères**. 17 F. 1882. II, **13**, 112 (**27**, 384), pl. 33.
test. **Malligand**. 8 Je. 1875. II, **6**, 299 (**16**, 67).
testing apparatus. **Glaeser**. 31 My. 1864. I, **1**, 271 (**5**, 207), pl. 25—Ex. **2**, 114 (**6**, 98).
ALCOHOLIZING sugar and glucose. **Braida**. 16 Je. 1864. I, **1**, 312 (**5**, 248).
ALCOHOLMETER. **Devèze**. 15 F. 1882. II, **13**, 101 (**27**, 373), pl. 31.
Sourbé. 31 My. 1881. II, **12**, 461 (**26**, 11).
Tavan et Charrier. 18 Mr. 1879. II, **10**, 127 (**21**, 327), pl. 45.
ALIZARINE, artificial **Roussin**. 30 Je. 1861 (**3**, 63).*
color. **Simpson, Brooke e Royle**. 27 F. 1877. II, **8**, 85 (**18**, 175).
oil. **Sulzberger e Comp**. 6 Ag. 1880. II, **11**, 542 (**24**, 143).
ALKALI, carbonate, decomposing. **Juron e Imbert**. 11 Je. 1874. II, **5**, 270 (**14**, 379).
carbonate, manufacture. **Oreti**. 1 Ap. 1864. I, **1**, 72 (**5**, 8), pl. 11.
carbonate to protect surfaces of metal, wood, stone, etc. **Boy-Gilbert**. 11 Jl. 1867. I, **4**, 213 (**7**, 353.)
hydrate, manufacture. **Lœwig**. 18 My. 1877. II, **8**, 276 (**18**, 366). Ad. **9**, 131 (**19**, 486); **10**, 184 (**21**, 384)—Ex. **10**, 259 (**21**, 459). Ad. **10**, 532 (**22**, 231).
— **Lœwig**. 25 Ja. 1878. II, **9**, 38 (**19**, 393).
hydrocarburet. **Tonini**. 30 Je. 1856. (**1**, 183). Ad. (**1**, 21).* (*Sardinia.*)
manufacture. **Hargreaves e Robinson**. 8 My. 1873. II, **4**, 217 (**13**, 197), pl. 58.
ALLOY. **Conti-Barbaran**. 25 Jl. 1877. II, **8**, 430 (**19**, 20).
Dick. 19 Je. 1880. II, **11**, 402 (**24**, 3). Ad. **12**, 585 (**26**, 135)—Ex. **12**, 586 (**26**, 136).
Hollway. 25 O. 1876. II, **7**, 517 (**17**, 470).
Lenian. 8 Je. 1875. II, **6**, 291 (**16**, 59).
Létrange. 10 Ag. 1881. II, **12**, 737 (**26**, 287), pl. 192.
Mornese. 14 O. 1879. II, **10**, 657 (**22**, 357).
Perret. 30 Mr. 1857 (**1**, 344).* (*Sardinia.*)
copper. **Dick**. 21 D. 1881. II, **12**, 1117 (**27**, 167).
gas and water pipe. **Molineris**. 1 F. 1872. II, **3**, 35 (**11**, 435)—Ex. **5**, 157 (**14**, 266).
horseshoe. **Baker**. 30 O. 1874. II, **5**, 526 (**15**, 135).
iron manganese, manufacture. **Compagnie anonyme des fonderies et forges de Terre Noire, La Voulte et Bességes**. 23 Je. 1874. II, **5**, 299 (**14**, 408), pl. 72.
— **Compagnie anonyme des fonderies et forges de Terre Noire, La Voulte et Bességes**. 15 Jl. 1874. II, **5**, 345 (**14**, 454), pl. 80.
— **Compagnie anonyme des fonderies et forges de Terre Noire, La Voulte et Bességes**. 15 Jl. 1874. II, **5**, 347 (**14**, 456).
iron titanium. **Wilson**. 31 Mr. 1863. (**4**, 15)*—Ex. **1**, 212 (**5**, 148).
— manufacture. **Compagnie anonyme des fonderies et forges de Terre Noire, La Voulte et Bességes**. 23 Je. 1874. II, **5**, 299 (**14**, 408), pl. 72.
— — **Compagnie anonyme des fonderies et forges de Terre Noire, La Voulte et Bességes**. 15 Jl. 1874. II, **5**, 347 (**14**, 456).
iron silicon, manufacture. **Compagnie anonyme des fonderies et forges de Terre Noire, La Voulte et Bességes**. 23 Je. 1874. II, **5**, 299 (**14**, 408), pl. 72.
— **Compagnie anonyme des fonderies et forges de Terre Noire, La Voulte et Bességes**. 15 Jl. 1875. II, **5**, 347 (**14**, 456).
iron tungsten, manufacture. **Compagnie anonyme des fonderies et forges de Terre Noire, La Voulte et Bességes**. 23 Je. 1874. II, **5**, 299 (**14**, 408), pl. 72.
— **Compagnie anonyme des fonderies et forges de Terre Noire, La Voulte et Bességes**. 15 Jl. 1874. II, **5**, 347 (**14**, 456).
malleable, rendering. **Dronier**. 31 D. 1878. II, **9**, 837 (**21**, 192).
nickel, cobalt, iron, and copper. **Fleitmann**. 24 F. 1881. II, **12**, 112 (**25**, 162)—Ex. **13**, 131 (**27**, 403).
ordnance. **Levi-Montefiore e Künzel**. 30 Ap. 1870. II, **1**, 178 (**10**, 178).
projectile. **Bozza**. 20 D. 1866. I, **3**, 293 (**7**, 119).
silvery. **Persch-Baudwin**. 27 My. 1873. II, **4**, 246 (**13**, 226).
tin, lead, silver. **de Villiers**. 6 Ap. 1881. II, **12**, 282 (**25**, 332).
white bronze. **Chardon**. 20 Je. 1881. II, **12**, 548 (**26**, 98).

ALMOND extract. **Avril.** 23 N. 1872. II, **3**, 513 (**12**, 415).
ALPHABET-BLOCK. **Leprotti.** 23 Ag. 1867. I, **4**, 289 (**7**, 429), pl. 88.
Leprotti. 1 F. 1869. I, **6**, 31 (**9**, 47), pl. 7.
ALUMINATE manufacture. **Lœwig.** 25 Ja. 1878. II, **9**, 38 (**19**, 393).
ALUMINIUM compounds, manufacture. **Lœwig.** 18 My. 1877. II, **8**, 276 (**18**, 366). Ad. **9**, 131 (**19**, 486); **10**, 184 (**21**, 384)—Ex. **10**, 259 (**21**, 459). Ad. **10**, 532 (**22**, 232).
manufacture. **Cumenge.** 31 Mr. 1858. (**2**, 59).* (*Sardinia*).
— **Ferrari-Corbelli.** 31 Mr. 1858. (**2**, 38).* (*Sardinia*).
— **Ferrari-Corbelli.** 31 Mr. 1858. (**2**, 65).* (*Sardinia*).
— **Petit.** 31 Mr. 1858. (**2**, 66).* (*Sardinia*).
oxide preparing for reducing. **Webster.** 10 Ja. 1881. II, **13**, 5 (**27**, 277).
salt extracting from lava. **Cobley.** 18 Ag. 1873. II, **4**, 388 (**13**, 368).
— purifying of iron. **Depérais.** 25 My. 1877. II, **8**, 284 (**18**, 374).
sulphate. **Laur.** 29 S. 1877. II, **8**, 565 (**19**, 155).
— manufacture. **Depérais.** 26 D. 1877. II, **8**, 732 (**19**, 322), pl. 195.
— — **Mundo.** 28 F. 1871. II, **2**, 54 (**10**, 476), pl. 8.
— — **Noël et Rohart.** 16 My. 1878. II, **9**, 295 (**20**, 150).
— — **Semper.** 19 Ag. 1881. II, **12**, 74* (**26**, 298), pl. 194.
— — **Vetere.** 27 F. 1877. II, **8**, 82 (**18**, 172)—Ex. **9**, 136 (**19**, 491); **10**, 206 (**21**, 406).
— — from alunite. **Depérais.** 9 O. 1873. II, **4**, 485 (**13**, 463).
— — from volcanic rocks. **Depérais.** 22 My. 1871. II, **2**, 144 (**11**, 66).
AMALGAMATOR. **Pawilowski.** 30 S. 1855. (**1**, 78).* (*Sardinia*).
Readwin. 11 Mr. 1882. II, **13**, 184 (**27**, 456), pl. 52.
AMBULANCE. **Locati.** 29 Ag. 1866. I, **3**, 195 (**7**, 21), pl. 62.
Locati. 29 Mr. 1867. I, **4**, 102 (**7**, 242), pls. 32, 33.
Locati. 31 D. 1877. II, **8**, 764 (**19**, 354), pl. 202.
AMMONIA distilling apparatus. **Grüneberg.** 31 Mr. 1880. II, **11**, 204 (**23**, 305), pl. 61.
engine. **Bastianelli,** 7 Ag. 1865. I, **2**, 219 (**6**, 203)—Ex. **5**, 342 (**8**, 412).
— **Bastianelli.** 25 O. 1871. II, **2**, 367 (**11**, 289).
— **Flandrin.** 21 Mr. 1865. I, **2**, 94 (**6**, 78), pls. 23, 24.
— **Frot.** 17 Ja. 1866. I, **3**, 10 (**6**, 336), pl. 5.
— **Salvatico.** 10 Jl. 1873. II, **4**, 340 (**13**, 320).
extracting. **Elwert e Muller-Pack.** 28 Ag. 1872. II, **4**, 413 (**13**, 393), pl. 106.
— **Hans.** 10 My. 1880. II, **11**, 286 (**23**, 387), pl. 83.
— **Maxwell-Lyte.** 16 F. 1875. II, **6**, 70 (**15**, 338).
— for fertilizer. **Blancard et Chateau.** 31 D. 1863. (**4**, 157)*—Ex. I, **1**, 117 (**5**, 53).
— from urine. **Calvo.** 30 S. 1856. (**1**, 267.) Ad. (**1**, 15).* (*Sardinia.*)
liquids, treating. **Young.** 30 N. 1873. II, **4**, 575 (**14**, 55).
utilizing for treating sewage. **Bellon.** 7 N. 1874. II, **5**, 540 (**15**, 149), pl. 124.
AMMONIUM carbonate, extracting from coal-gas. **Bolton e Wanklyn.** 11 My. 1881. II, **12**, 398 (**25**, 448).
compound from gas refuse, treating. **Société anonyme des produits chimiques du sud-ouest.** 13 Ag. 1880. II, **11**, 549 (**24**, 150).
hydrate, extracting from coal-gas. **Bolton e Wanklyn.** 11 My. 1881. II, **12**, 398 (**25**, 448).
manufacture. **Rickman e Thompson.** 26 Mr. 1880. II, **11**, 180 (**23**, 281), pl. 55.
salt manufacture. **Paterson e Brothers.** 22 D. 1875. II, **6**, 657 (**16**, 425), pl. 164.
— from animal refuse. **Anthony.** 18 Mr. 1879. II, **10**, 120 (**21**, 320), pl. 43.
salts, extracting from anthracite, bitumen, lignite, etc. **Massara.** 24 Ja. 1868. I, **5**, 9 (**8**, 79).
sulphate, extracting from coal-gas. **Bolton e Wanklyn.** 11 My. 1881. II, **12**, 398 (**25**, 448).
— manufacture. **Chapusot.** 19 Ap. 1872. II, **3**, 154 (**12**, 54), pl. 46.
— **Grouven.** 23 Ap. 1878. II, **9**, 223 (**20**, 48), pl. 56—Ex. **10**, 287 (**2**, 487).
— **Piazzi.** 18 Mr. 1872. II, **3**, 99 (**11**, 499).
AMMUNITION-WAGON lock. **Letestu.** 6 My. 1864. I, **1**, 197 (**5**, 133), pl. 13
ANCHOR **Martin.** 14 Ag. 1876. II, **7**, 397 (**17**, 349), pl. 100.
catch. **Camerano.** 30 Je. 1870. II, **1**, 278 (**10**, 278), pl. 67.
ANDIRONS, hollow. **Passy.** 21 Mr. 1865. I, **2**, 71 (**6**, 55), pl. 12.
ANGLE-MEASURING instrument. **Malerba-Guerrieri.** 15 D. 1874. II, **5**, 611 (**15**, 220), pl. 146.
ANILINE sulpho-derivative, reducing. **Collin e Lenicque.** 27 S. 1879. II, **10**, 626 (**22**, 326).
ANIMAL POWER ENGINE. **Ferrario.** 30 Mr. 1870. II, **1**, 136 (**10**, 136).
Ferretti. 20 My. 1871. II, **2**, 124 (**11**, 46).
Ferretti. 16 Ja. 1879. II, **10**, 1 (**21**, 201), pl. 1.
Russo. 21 D. 1868. I, **5**, 424 (**8**, 495). Ad. **6**, 281 (**9**, 297).
Russo. 28 Mr. 1870. II, **1**, 123 (**10**, 123), pl. 27. Ad. **1**, 169 (**10**, 169), pl. 42.
ANIMAL SHEARS. **Martelet.** 13 Jl. 1880. II, **11**, 471 (**24**, 72), pl. 136.
Les fils de Peugeot. 13 Ag. 1880. II, **11**, 564 (**24**, 165), pl. 153.
ANNUNCIATOR, electric. **Wiman.** 10 Mr. 1875. II. **6**, 106 (**15**, 374), pl. 22.
pneumatic. **Perrier** 30 My. 1871. II, **2**, 149 (**11**, 71), pl. 30.
ANT TRAP. **Fazio.** 8 My. 1873. II, **4**, 215 (**13**, 195), pl. 58.
Stagno. 8 Jl. 1872. II, **3**, 299 (**12**, 199), pl. 78. Ad. **4**, 81 (**13**, 61), pl. 23.
ANTHRACENE colors. **Simpson, Brooke e Royle.** 27 F. 1877. II, **8**, 85 (**18**, 175).
manufacture. **Fenner.** 25 F. 1873. II, **4**, 93 (**13**, 73), pl. 25.
ANTHRACITE, neutralizing sulphur. **Courbis.** 30 D. 1856. (**1**, 294).* (*Sardinia.*)
ANTIMONY extracting. **Hargreaves e Bobinson.** 6 D. 1881. II, **12**, 1077 (**27**, 127).
ore enriching. **Arnaud.** 15 S. 1879. II, **10**, 609 (**22**, 309).
ore treating. **Hargreaves e Robinson.** 23 Ap. 1881. II, **12**, 359 (**25**, 439).
ANTISEPTIC. **Falconi.** 31 D. 1861. (**3**, 162.)*
Leupold. 25 Ja. 1881. II, **12**, 4 (**25**, 54).
AQUEDUCT. **Constantin e Ghibellini.** 9 F. 1874. II, **5**, 48 (**14**, 157), pl. 8.
ARCHITRAVE **Pereira de Carvalho.** 30 S. 1860. (**2**, 424.)* (*Sardinia.*)
ARMLET, ball-player's. **Bello.** 11 Mr. 1882. II, **13**, 180 (**27**, 452), pl. 52.
ARMOR-CLOTH. **Geraci.** 31 Mr. 1868. I, **5**, 64 (**8**, 134).
ARMOR-PLATE. **Compagnie anonyme des forges de Chatillon et Commentry.** 3 Je. 1878. II, **9**, 347 (**20**, 202), pl. 96.
Cox. 30 N. 1876. II, **7**, 565 (**18**, 18), pl. 145.
de Fornari. 11 F. 1869. I, **6**, 42 (**9**, 58), pl. 14.
Fosberg. 18 My. 1878. II, **9**, 311 (**20**, 166), pl. 82.
Gruson. 6 Ag. 1878. II, **9**, 504 (**20**, 359), pls. 152, 153.
Krupp. 14 Ja. 1876. II, **7**, 22 (**16**, 474), pl. 3—Ex. **8**, 34 (**18**, 124).
Marrel. 6 D. 1876. II, **7**, 585 (**18**, 38), pl. 151.
Marrel frères. 6 D. 1876. II, **7**, 584 (**18**, 37), pl. 151.
Marrel frères. 3 F. 1877. II, **8**, 40 (**18**, 130), pl. 10.
Marrel frères. 31 O. 1879. II, **10**, 710 (**22**, 410), pl. 186.
Marrel frères. 31 O. 1879. II, **10**, 711 (**22**, 411), pl. 191.
Warren. 31 D. 1863. (**4**, 166.)*
Wheatley. 30 S. 1863. (**4**, 55.)*
elastic. **Barone.** 18 O. 1866. I, **3**, 237 (**7**, 63).
fastening. **Tardy.** 22 Jl. 1876. II, **7**, 355 (**17**, 367), pl. 87.
— **Tardy.** 15 Ja. 1877. II, **8**, 16 (**18**, 106), pl. 4. Ad. **8**, 207 (**18**, 297).
manufacture. **Asbeck, Osthaus, Eicken e Comp.** 11 Jl. 1876. II, **7**, 345 (**17**, 297), pl. 80.
— **Compagnie des hauts fourneaux, forges et aciéries de la marine et des chemins de fer.** 30 Ap. 1877. II, **8**, 235 (**18**, 325).
— **Garnier et Wiotte.** 19 Ag. 1879. II, **10**, 520 (**22**, 220), pl. 148.
protecting from rust. **Bernabé.** 29 Ag. 1866. I, **3**, 199 (**7**, 25). Ad. **3**, 280 (**7**, 196); **4**, 101 (**7**, 241).

ARMOR-PLATING. **Brewster.** 15 D. 1877. II, **8**, 724 (**19**, 314), pl. 94.
ARSENIC ore, enriching. **Arnaud.** 15 S. 1879. II, **10**, 609 (**22**, 309).
ASBESTOS, article, manufacture. **Furse Brothers et Comp.** 6 Jl. 1877. II, **8**, 383 (**18**, 473).
fabric. **Cartagenova.** 31 Mr. 1881. II, **12**, 267 (**25**, 317).
— **Del Corona.** 19 Ja. 1870. II, **1**, 13 (**10**, 13).
— manufacture. **Trivier.** 7 Mr. 1882. II, **13**, 163 (**27**, 435).
paper. **di Baviera.** 30 D. 1876. II, **7**, 636 (**18**, 89).
preparing. **Chiadò.** 22 F. 1882. II, **13**, 116 (**27**, 388), pl. 34.
ASCLEPIAS products, washing. **Albasini.** 30 N. 1870. II, **1**, 396 (**10**, 396).
ASPHALT, article, manufacture. **Zoller.** 18 My. 1877. II, **8**, 282 (**18**, 372).
burning. **Avagliano.** 21 Je. 1865. I, **2**, 184 (**6**, 168), pl. 48.
composition, articles. **Detti.** 18 F. 1867. I, **4**, 120 (**7**, 260), pl. 37.
furnace. **Scotti e Micheli.** 31 Mr. 1860 (**2**, 317). Ad. (**1**, 83).* (*Sardinia.*)
manufacture. **Barthel, Holzmann e Capitaine.** 5 Ja. 1873. II, **4**, 4 (**12**, 484), pl. 1.
mastic, manufacture. **Randon.** 13 S. 1869. I, **6**, 349 (**9**, 365).
sink. **Charlou.** 30 Ap. 1870. II, **1**, 184 (**10**, 184), pl. 44.
ASTRONOMICAL INSTRUMENT. **Pannetrat.** 13 S. 1870. II, **1**, 347 (**10**, 347), pl. 91.
Viatour. 6 D. 1879. II, **10**, 806 (**23**, 6), pl. 228.
Woss. 20 O. 1877. II, **8**, 606 (**19**, 196), pl. 150.
ATOMIZER. **Rossi.** 25 Jl. 1878. II, **9**, 478 (**20**, 333), pl. 142.
Sax. 17 F. 1865. I, **2**, 55 (**6**, 39), pl. 10—Ex. **3**, 107 (**6**, 433), **4**, 125 (**7**, 265).
AUGER. **Boglione.** 20 Mr. 1869. I, **6**, 105 (**9**, 121), pl. 26.
AWNING. **Mosca.** 24 My. 1876. II, **7**, 260 (**17**, 212), pl. 60.
AXLE. *See also* Car, Carriage.
Kaselowski. 30 N. 1878. II, **9**, 723 (**21**, 78), pl. 218.
anti-friction. **Favier-Lagaye.** 21 Ap. 1870. II, **1**, 158 (**10**, 158), pl. 38.
bearing. **Belon.** 28 Mr. 1877. II, **8**, 153 (**18**, 243), pl. 44.
— **Biscaccianti.** 21 Ja. 1879. II, **10**, 45 (**21**, 245), pl. 11.
— **Brewer.** 27 D. 1881. II, **12**, 1165 (**27**, 215), pl. 326.
— car. **Bertheau.** 30 Jl. 1878. II, **9**, 479 (**20**, 334), pl. 143.
box. **Austin.** 26 Mr. 1880. II, **11**, 174 (**23**, 275), pl. 55.
— **Caldera.** 30 Mr. 1874. II, **5**, 126 (**14**, 235), pl. 27.
— **Pisa.** 27 My. 1879. II, **10**, 310 (**22**, 10), pl. 85.
— friction-bearing. **Quaglino fratelli.** 11 Ja. 1881. II, **13**, 7 (**27**, 279), pl. 2.
car. **Miltimore.** 21 Mr. 1877. II, **8**, 129 (**18**, 219), pl. 37.
— **Viglino e Donna.** 3 Mr. 1875. II, **6**, 92 (**15**, 360), pl. 20. Ad. **6**, 564 (**16**, 332)—Ex. **9**, 215 (**20**, 70).
carriage. **Reynolds.** 29 Ag. 1876. II, **7**, 421 (**17**, 373), pl. 105.
— **Schmid.** 11 Ja. 1882. II, **13**, 13 (**27**, 285), pl. 2.
lubricating. **Labbé.** 21 D. 1881. II, **12**, 1144 (**27**, 194), pl. 318.
lubricator. **Beissel.** 13 Jl. 1880. II, **11**, 465 (**24**, 66), pl. 134.
— **Chapman.** 12 Mr. 1866. I, **3**, 63 (**6**, 389), pl. 16.
— **Reimherr.** 30 N. 1880. II, **11**, 846 (**24**, 447), pl. 248.
— **Sidebotham.** 15 O. 1875. II, **6**, 546 (**16**, 314), pl. 130.
— **Von Jeinsen.** 16 S. 1870. II, **1**, 353 (**10**, 353), pl. 88.
— car. **Prigent.** 27 Ag. 1870. II, **1**, 334 (**10**, 334), pl. 86.
— substitute. **Boixo.** 25 F. 1867. I, **4**, 75 (**7**, 214), pl. 26.
BAG. *See also* Hand, Oil-press, Paper, Traveling.
manufacture. **Nadini.** 11 My. 1872. II, **3**, 191 (**12**, 91), pls. 53, 54.
BALANCE. *See also* Millstone.
rod. **Vandenbergh.** 30 D. 1864. I, **1**, 541 (**5**, 478), pl. 83.
BALANCE-WHEEL. **Dall' Asta.** 10 O. 1867. I, **4**, 325 (**7**, 465), pl. 99—Ex. **5**, 403 (**8**, 474); **6**, 393 (**9**, 409).
adjustable. **Dall' Asta.** 20 Jl. 1871. II, **2**, 230 (**11**, 152, pl. 51—Ex. **5**, 61 (**14**, 152).
BALE tie. **Rollier.** 2 Mr. 1881. II, **12**, 137 (**25**, 187), pl. 32.
BALING press. **Wohl.** 23 Jl. 1867. I, **4**, 244 (**7**, 384), pl. 79.
BALL. *See* Billiard.
BALLAST. **Russo.** 13 Jl. 1872. II, **3**, 304 (**12**, 204). Ad. **4**, 198 (**13**, 178), pl. 51.
water. **Bernucca.** 26 Ja. 1872. II, **3**, 21 (**11**, 421), pl. 7. Ad. **3**, 87 (**11**, 487), pl. 24.
BALLOON. **Apraxine.** 6 Jl. 1877. II, **8**, 385 (**18**, 475), pl. 103.
Apraxine. 15 Je. 1878. II, **9**, 377 (**20**, 232), pl. 104—Ex. **12**, 422 (**25**, 472).
Apraxine. 30 O. 1880. II, **11**, 770 (**24**, 371), pl. 224. Ad. **12**, 216 (**25**, 266), pl. 52.
Carrera. 6 Je. 1870. II, **1**, 240 (**10**, 240), pl. 63.
Casoni. 17 Je. 1872. II, **3**, 251 (**12**, 151).
Chauvelot. 31 D. 1857. (**1**, 320.)* (*Sardinia.*)
Duthu. 23 N. 1872. II, **3**, 511 (**12**, 411), pl. 124.
Giffard. 26 D. 1867. I, **4**, 407 (**8**, 48), pl. 126.
Guglielmini. 30 D. 1876. II, **7**, 645 (**18**, 68), pls. 156, 157.
Haenlein. 29 Jl. 1872. II, **3**, 341 (**12**, 241), pl. 87.
Petersen. 30 Ja. 1882. II, **13**, 65 (**27**, 337), pls. 17, 18.
captive. **Recordon.** 31 Mr. 1860. (**2**, 341.)* (*Sardinia.*)
steering. **Abate.** 27 F. 1877. II, **8**, 75 (**18**, 165), pl. 23.
— **Fabbi.** 7 F. 1876. 11, **7**, 55 (**17**, 7), pl. 15.
— apparatus. **Lestain.** 7 S. 1869. I, **6**, 338 (**9**, 354), pls. 117, 118—Ex. **3**, 476 (**12**, 376).
toy. **Ferrari.** 7 Je. 1879. II. **10**, 338 (**22**, 38), pl. 93.
BALLOT-BOX. **Esposito.** 15 D. 1877. II, **8**, 715 (**19**, 305), pl. 187.
Frébault. 16 Je. 1869. I, **6**, 242 (**9**, 258), pl. 76. Ad. **6**, 342, 428 (**9**, 358, 444), pls. 113, 141.
BALSAM. **Achilli.** 21 Ap. 1864. I, **1**, 145 (**5**, 81).
BAND. *See* Hat.
BAR. *See* Grate.
BARBER'S HAIR-SINGEING APPARATUS. **Mazza.** 15 Mr. 1878. II, **9**, 141 (**19**, 496), pl. 36.
BARIUM carbonate. **Gauthier et Tassy de Montluc.** 30 S. 1858. (**1**, 469.)* (*Sardinia.*)
oxide manufacture. **Maumené.** 23 Je. 1881. II, **12**, 571 (**26**, 121).
sulphate, manufacture. **Molinari.** 3 Ag. 1881. II, **12**, 719 (**26**, 269).
BARK pulverizer. **Gaillet et Damourette et Cie.** 30 S. 1863. (**4**, 84.)*
rossing. **Ligerot.** 15 N. 1866. I, **3**, 255 (**7**, 81).
— **Monchelet.** 8 Ag. 1876. II, **7**, 385 (**17**, 337), pl. 97.
— machine. **Cicero.** 23 Je. 1873. II, **4**, 294 (**13**, 274), pl. 76.
— — **Toste.** 26 O. 1880. II, **11**, 752 (**24**, 353), pl. 116.
BAROMETER. **Malacrida.** 22 D. 1868. I, **5**, 432 (**9**, 3), pl. 131.
micro-. **Grablovitz.** 26 Ag. 1880. II, **11**, 535 (**24**, 136), pl. 149.
BARRACKS. **Maurice.** 20 D. 1873. II, **4**, 591 (**14**, 71), pl. 164.
Tollet. 24 D. 1878. II, **9**, 781 (**21**, 136), pl. 237.
BARREL. **Andouy.** 3 Je. 1875. II, **6**, 281 (**16**, 49), pl. 63.
Theryc. 10 My. 1880. II, **11**, 282 (**23**, 383), pl. 82.
cementing. **Zoubschaninoff.** 31 D. 1857. (**2**, 28.)* (*Sardinia.*)
fastening. **Benson et Jones.** 31 Mr. 1864. (**4**, 191.)*
gunpowder. **Ritter.** 30 Je. 1879. II, **10**, 426 (**22**, 126), pl. 119.
machine. **Cavaciocchi.** 11 Je. 1879. II, **10**, 362 (**22**, 62), pl. 96.
machinery. **Benson.** 9 Je. 1864. I, **1**, 285 (**5**, 221), pls. 26–30.
manufacture. **Bouis.** 11 Ja. 1877. II, **8**, 2 (**18**, 92), pl. 1.
— **Compagnie de la tonnellerie.** 17 My. 1875. II, **6**, 247 (**16**, 18), pl. 54.
pitching. **Scally.** 11 Mr. 1869. I, **6**, 95 (**9**, 111).
sulphurizer. **Darré e Mathet.** 11 Ja. 1877. II, **8**, 9 (**18**, 99), pl. 3.
— **Micheletti.** 30 Ap. 1880. II, **11**, 271 (**23**, 372), pl. 77.
BASIN. *See* Silkspinning, Silkworm, Water-closet.
BATH. *See also* Air, Silk spinning.
heater. **Giannetti** 12 Jl. 1879. II, **10**, 472 (**22**, 172), pl. 131.
hot-air. **Gribaldi.** 27 S. 1879. II, **10**, 642 (**22**, 342), pl. 176.

BATH—continued.
house at Rimini. **Baldini.** 14 O. 1843. P. P. 33,890, 62,561. I, **1**, 422 (**5**, 359), pl. 74.
medicated air. **Medici.** 11 My. 1881. II, **12**, 389 (**25**, 439), pl. 96.
public. **Amadei.** 11 My. 1881. II, **12**, 411 (**25**, 461), pl. 101.
shower. **Mathieu de Drôme.** 31 Mr. 1861. (**3**, 13.)*
— **Menici.** 18 My. 1872. II, **3**, 210 (**12**, 110), pl. 61.—Ex. **4**, 319 (**13**, 299); **5**, 328 (**14**, 437); **6**, 410 (**16**, 178); **7**, 334 **17**, 286).
temperature regulator. **Forlanini e Ponzio.** 18 O. 1878. II, **9**, 646 (**21**, 1), pl. 201.
tub. **Theynard.** 30 Je. 1858. (**2**, 115.)* (*Sardinia.*)
— **Seligsberg.** 19 Je. 1876. II, **7**, 286 (**17**, 238), pl. 69.
BATHING BOAT. **Bielhaud.** 9 Jl. 1879. II, **10**, 449 (**22**, 149), pl. 127.
BATHING MACHINE. **Amadeo.** 3 Jl. 1865. I, **2**, 187 (**6**, 171), pl. 54.
Desens. 31 D. 1863. (**4**, 142.)—Ex. I, **1**, 295 (**5**, 231).
Lippacher e Grandon. 14 Ag. 1876. II, **7**, 406 (**17**, 358), pl. 101.
Richelmi e Casaccia. 31 M. 1861. (**3**, 24.)*
Van Den Berghe. 31 Jl. 1877. II, **8**, 442 (**19**, 32), pl. 115.
Venturini e Conscience. 6 Ag. 1878. II, **9**, 495 (**20**, 350), pl. 150.
BATTERY. *See also* Electric.
floating. **Krupp.** 11 Ja. 1882. II, **13**, 8 (**27**, 280), pl. 304.
BAYONET manufacture. **Curty et Boeris.** 31 D. 1863. (**4**, 149.)* Ad. (**1**, 140)—Ex. I, **1**, 182 (**5**, 118).
saber. **Richelmi.** 27 Je. 1877. II, **8**, 369 (**18**, 459), pl. 98.
spade. **Rice.** 2 D. 1868. I, **5**, 399 (**8**, 470), pl. 111.
— **Wetmere.** 9 Je. 1871. II, **2**, 167 (**11**, 89), pl. 39.
BEAD manufacture. **Baptérosses.** 16 Jl. 1872. II, **3**, 320 (**12**, 220), pl. 82—Ex. **9**, 571 (**20**, 426).
stringing machine. **De la Tour.** 29 Ap. 1868. I, **5**, 91 (**8**, 161), pl. 21.
— **Goupil.** 28 D. 1871. II, **2**, 467 (**11**, 389), pl. 97.
BEAN HULLER. **Giorgio.** 25 My. 1852.* (*Sardinia.*)
BEARING. *See also* Axle, Journal.
Brussaut. 30 Je. 1858. (**2**, 70.)* (*Sardinia.*)
Girard. 31 Mr. 1861. (**2**, 491.)*
Kleinpell e Dramburg. 30 Je. 1874. II, **5**, 322 (**14**, 431), pl. 74.
Saijno. 30 Je. 1856. (**1**, 165.)* (*Sardinia.*)
construction. **Derlau, etc.** 9 Ag. 1867. I, **4**, 271 (**7**, 411), pl. 69.
BEATER. *See* Clothes, Silk spinning.
BED. *See also* Tent.
Angiolini. 21 My. 1879 II, **10**, 291 (**21**, 491), pl. 79.
Barbano. 8 F. 1878. II, **9**, 54 (**19**, 409), pl. 12.
Baron. 6 O. 1864. I, **1**, 465 (**5**, 302), pl. 51.
Bayer. 27 Je. 1876. II, **7**, 300 (**17**, 252), pl. 71. Ad. **9**, 673 (**21**, 28), pl. 207.
Domercq. 15 Mr. 1876. II, **7**, 115 (**17**, 67), pl. 26.
Domercq. 29 S. 1877. II, **8**, 552 (**19**, 142), pl. 139.
Lefebvre. 27 N. 1877. II, **8**, 677 (**19**, 267), pl. 178. Ad. **9**, 293 (**19**, 267), pl. 77.
Mangoni. 21 D. 1880. II, **11**, 889 (**24**, 490), pl. 256.
Morino. 31 Mr. 1860. (**2**, 364.)* (*Sardinia.*)
da Nova, Santino e Comp. 3 F. 1877. II, **8**, 50 (**18**, 140), pl. 15.
Owen e Veitch. 30 S. 1860. (**2**, 438.)* (*Sardinia.*)
Pâquet. 30 Mr. 1877. II, **8**, 169 (**18**, 259), pl. 46.
Pedersoli e figlio. 17 Ja. 1874. II, **5**, 20 (**14**, 129), pl. 2.
Viada. 30 N. 1870. II, **1**, 399 (**10**, 399), pl. 100.
book-case. **Elli.** 30 Ap. 1877. II, **8**, 239 (**18**, 329), pl. 67.
camp. **de Dominicis.** 27 Ag. 1879. II, **10**, 562 (**22**, 262), pl. 158.
— **Everickx.** 17 Jl. 1869. I, **6**, 289 (**9**, 305), pl. 96.
folding. **Boucher e Lardon.** 28 F. 1879. II, **10**, 100 (**21**, 300), pl. 27.
— **Fleury.** 17 N. 1869. I, **6**, 413 (**9**, 429), pl. 136.
— **Tavella.** 20 O. 1881. II. **12**, 926 (**26**, 476), pl. 247.
hospital. **Hodgkins.** 7 F. 1879. II, **10**, 60 (**21**, 260), pl. 19.
— **Ramella.** 20 O. 1881. II, **12**, 930 (**26**, 480), pl. 247.

BED—continued.
invalid. **Canepa fratelli e Florio.** 30 Je. 1858. (**2**, 83.)* (*Sardinia.*)
— **Cantoni.** 31 Mr. 1863. (**4**, 9.)*
— **Gacon.** 14 Ja. 1876. II, **7**, 21 (**16**, 473), pl. 3.
— **Guesneau.** 12 S. 1865. I, **2**, 242 (**6**, 226), pl. 64.
— **Zocchi.** 30 N. 1874. II, **5**, 586 (**15**, 195), pl. 140. Ad. **7**, 39 (**16**, 491), pl. 10.
iron. **Frattini.** 27 N. 1877. II, **8**, 669 (**19**, 259), pl. 177.
— **Herbert.** 4 S. 1880. II, **11**, 608 (**24**, 209), pl. 171.
— **Negro.** 30 S. 1861. (**3**, 130.)*—Ex. I, **1**, 245 (**5**, 181); **1**, 262 (**5**, 198).
— **Pinciroli.** 25 O. 1876. II, **7**, 516 (**17**, 469), pl. 129.
portable. **Everickx.** 28 Ag. 1877. II, **8**, 511 (**19**, 101), pl. 130.
ship. **Parodi.** 20 Ja. 1880. II, **11**, 28 (**23**, 129).
sofa. **Maneglia.** 17 Ja. 1870. II, **1**, 12 (**10**, 12), pl. 2.
— **Ronchi.** 31 My. 1879. II, **12**, 456 (**26**, 36), pl. 122.
spring. **Lodini.** 9 Ag. 1867. I, **4**, 272 (**7**, 412), pl. 85.
— **Massé.** 18 Mr. 1879. II, **10**, 123 (**21**, 323), pls. 44, 45—Ex. **13**, 156 (**27**, 428).
table. **Baldi.** 30 O. 1880. II, **11**, 764 (**24**, 365), pl. 220.
— **Bertrand de Livray.** 31 D. 1857. (**2**, 109.)* (*Sardinia.*)
— **Maneglia.** 8 O. 1870. II, **1**, 369 (**10**, 369), pl. 97.
BEDSTEAD. **Pedersoli e Ziba.** 22 O. 1874. II, **5**, 502 (**15**, 111), pl. 118.
without mattress. **Margoton.** 26 Jl. 1864. I, **1**, 372 (**5**, 309), 67.
BEEHIVE. **Berra.** 30 S. 1856. (**1**, 271.)* (*Sardinia.*)
Magni. 30 S. 1855. (**1**, 55.)* (*Sardinia.*)
BEER. **Böhringer e Springmühl.** 20 O. 1879. II, **10**, 687 (**22**, 387).
Corradini e Wassmus. 24 My. 1875. II, **6**, 263 (**16**, 31).
condensed. **Lockwood.** 18 Je. 1879. II, **10**, 366 (**22**, 66)
cooler. **Tarditi.** 7 My. 1868. I, **5**, 117 (**8**, 187), pl. 28.
— **Wahl.** 9 N. 1881. II, **12**, 983 (**27**, 33), pl. 265.
extract manufacture. **Lockwood.** 26 Je. 1877. II, **8**, 360 (**18**, 450)—Ex. **11**, 244 (**23**, 345).
manufacture. **Harth.** 30 Je. 1860. (**2**, 403.)* (*Sardinia.*)
— **Kasilister e Noback.** 20 Ja. 1880. II, **11**, 20 (**23**, 121).
— **Pasteur.** 8 Ap. 1872. II, **3**, 124 (**12**, 24), pl. 37.
— and preserving. **Pasteur.** 10 Jl. 1873. II, **4**, 339 (**13**, 319), pl. 89.
wort manufacture. **Tillmann.** 28 Mr. 1879. II, **10**, 170 (**21**, 370), pl. 53—Ex. **11**, 150 (**23**, 251).
yeast. **Rainer.** 22 Jl. 1880. II, **11**, 523 (**24**, 124).
BEET juice extractor. **Compagnie de Fives Lille e Liebermann.** 6 Ag. 1872. II, **3**, 51 (**12**, 251), pl. 92. Ad. **4**, 78 (**13**, 58), pl. 21; **4**, 245 (**13**, 225), pl. 66; **4**, 366 (**13**, 346), pl. 97.
BELL. *See also* Diving.
attachment. **Barigozzi.** 12 F. 1869. I, **6**, 48 (**9**, 64), pl. 12.
garden. **Bectard.** 27 S. 1879. II, **10**, 613 (**22**, 313), pl. 171.
— **Deguy.** 30 O. 1874. II, **5**, 525 (**15**, 134), pl. 123.
hanging. **Germain.** 12 Ag. 1875. II, **6**, 425 (**16**, 193), pl. 94.
— church. **Equillon.** 4 Ja. 1869. I, **6**, 16 (**9**, 26), pl. 2.
BELLOWS. *See also* Grape sulphurizer, Hydraulic.
Bellio. 7 My. 1875. II, **6**, 229 (**15**, 497), pl. 47.
Borgogno. 31 D. 1857. (**2**, 22.)* (*Sardinia.*)
Desnos-Gardissal. 31 Mr. 1861. (**3**, 7.)*
Florimond. 28 My. 1868. I, **5**, 160 (**8**, 230), pl. 43.
Testud de Beauregard. 31 Mr. 1862. (**3**, 204.)*
forge. **Enfer.** 20 Mr. 1875. II, **6**, 117 (**15**, 385), pl. 23.
insecticide. **Bourbon-Légal.** 6 D. 1881. II, **12**, 1076 (**27**, 126), pl. 293.
sulphurizer. **Candiani.** 26 Ag. 1875. II, **6**, 438 (**16**, 206), pl. 101.
— **Ferretti.** 26 Je. 1880. II, **11**, 429 (**24**, 30), pl. 110.
BELT coupling. **Bachmann.** 20 F. 1877. II, **8**, 69 (**18**, 159), pl. 18.
— **Baumberger.** 15 Mr. 1877. II, **8**, 117 (**18**, 207), pl. 31.
— **Desumeur, Delacourt e Dudin fratelli.** 30 S. 1869. I, **6**, 364 (**9**, 380), pl. 116.

BELT—continued.
driving. **Eschenlohr.** 15 N. 1867. I, **4**, 373 (**8**, 14), pl. 111.
— **Fileppi.** 20 Je. 1881. II, **12**, 451 (**26**, 91).
— **Gandy.** 23 Ag. 1878. II, **9**, 522 (**20**, 377). Ad. **11**, 251 (**23**, 352), pl. 73.
— **Kohsel et fils.** 29 S. 1877. II, **8**, 568 (**19**, 158), pl. 141.
— **Milanese.** 22 Jl. 1876. II, **7**, 375 (**17**, 327).
— **Paton.** 28 Ja. 1881. II, **12**, 27 (**25**, 77).
— **Poullain frères.** 27 My. 1879. II, **10**, 305 (**22**, 5), pl. 83.
— **Schmidt.** 12 Jl. 1879. II, **10**, 466 (**22**, 166).
edge-paring tool. **Lott.** 15 Jl. 1874. II, **5**, 348 (**14**, 457), pl. 77.
tightener. **Chapman.** 22 My. 1869. I, **6**, 202 (**9**, 218), pl. 69.
— **Garneri.** 13 O. 1865. I, **2**, 278 (**6**, 262), pl. 75.
transmission, power, gage. **Morosini.** 23 F. 1881. II, **12**, 106 (**25**, 156), pl. 26.
BENCH. *See* Advertising, Silk spinning.
BENZINE manufacture. **Biseo.** 15 O. 1875. II, **6**, 536 (**16**, 304), pl. 130.
— from anthracite, bitumen, lignite, etc. **Massara.** 24 Ja. 1868. I, **5**, 9 (**8**, 79).
BERGAMOT extract. **Gangeri.** 13 Ag. 1875. II, **6**, 424 (**16**, 192), pl. 96.
— **Pontari.** 14 Ja. 1876. II, **7**, 14 (**16**, 466), pl. 3.
— apparatus. **Carbone.** 10 Mr. 1871. II, **2**, 60 (**10**, 482), pl. 12.
— — **Pacino.** 24 F. 1881. II, **12**, 118 (**25**, 168), pl, 29. Ad. **12**, 1124 (**27**, 174), pl. 314.
— — **Raballo.** 27 Ap. 1870. II, **1**, 174 (**10**, 174), pl. 43.
BEVERAGE. *See also* Aërated.
Carpené. 27 My. 1879. II, **10**, 301 (**22**, 1), p. 82—Ex. **12**, 250 (**25**, 300).
Ciancaleoni-Ricci e Bartocci. 30 Je. 1855. (**1**, 27.)* (*Sardinia.*)
Durante. 12 D. 1881. II, **12**, 1082 (**27**, 132).
Franzi. 9 Ap. 1877. II, **8**, 172 (**18**, 262).
Furnis. 14 Ja. 1876. II, **7**, 23 (**16**, 475).
Paernio. 3 F. 1869. I, **6**, 40 (**9**, 56).
Tani e Comp. 30 N. 1877. II, **8**, 683 (**19**, 273).
Visconti-Pedroni e Comp. 7 My. 1875. II, **6**, 233 (**16**, 1).
Zanini e Galliani. 22 Ja. 1876. II, **7**, 29 (**16**, 481)—Ex. **9**, 51 (**19**, 406).
alcoholic. **Roatis.** 17 Ag. 1854. 98.* (*Sardinia.*)
condensed. **Marchier.** 6 Ag. 1880. II, **11**, 532 (**24**, 133).
vermuth-seltzer. **Melano.** 31 D. 1857. (**2**, 14.) Ad. (**1**, 50).* (*Sardinia.*)
BILLIARD ball, guttapercha. **Barrak.** 29 Ja. 1877. II, **8**, 33 (**18**, 123). Ad. **8**, 146 (**18**, 236)—Ex. **9**, 198 (**20**, 53).
bridge. **Anselmi.** 7 My. 1875. II, **6**, 223 (**15**, 491), pl. 47.
cue, metallic. **Lamoitié.** 17 S. 1875. II, **6**, 489 (**16**, 257), pl. 119.
cushion. **Bertinetti.** 16 Jl. 1872. II, **3**, 322 (**12**, 222), pl. 49—Ex. **4**, 425 (**13**, 405); **5**, 477 (**15**, 86).
— **Luraschi.** 15 Ag. 1872. II, **3**, 360 (**12**, 260), pl. 88—Ex. **6**, 433 (**16**, 201).
— **Luraschi.** 25 O. 1876. II, **7**, 512 (**17**, 465).
table. **Luraschi.** 15 Jl. 1864. I, **1**, 351 (**5**, 288), pl. 63.
BIT. *See* Bore, Bridle.
BITUMEN extracting. **Brandon.** 30 N. 1874. II, **5**, 581 (**15**, 190), pl. 136.
— **Krafft.** 12 N. 1879. II, **10**, 742 (**22**, 442).
— **MacIvor e Cobbold.** 21 D. 1880. II, **11**, 863 (**24**, 464), pl. 251.
— **Moffat.** 25 Je. 1874. II, **5**, 307 (**14**, 416).
— apparatus. **Depérais.** 30 Jl. 1869. I, **6**, 274 (**9**, 290), pl. 92.
refining. **Bennie.** 14 My. 1874. II, **5**, 221 (**14**, 330), pl. 49. Ad. **6**, 200 (**15**, 434), pl. 40.
BITUMINOUS rock, treating. **Boutigny.** 7 N. 1874. II, **5**, 538 (**15**, 147), pl. 126.
BLACKING. **Gastoldi.** 30 Ja. 1875. II, **6**, 38 (**15**, 306)—Ex. **7**, 8 (**16**, 460).
Levi. 24 D. 1879. II, **1**, 496 (**10**, 406).
Müller. 5 S. 1878. II, **9**, 550 (**20**, 405).

BLACKING—continued.
Nicolet. 21 D. 1881. II, **12**, 1135 (**27**, 185).
Rizzoli. 9 Ap. 1877. II, **8**, 190 (**18**, 280).
Vigneron. 6 Ap. 1875. II, **6**, 165 (**15**, 433).
manufacture. **Duvernay.** 14 Jl. 1874. II, **5**, 350 (**14**, 459), pl. 79.
— **Pacaud.** 30 D. 1876. II, **7**, 618 (**18**, 71).
BLAST. **Molinari.** 21 D. 1880. II, **11**, 865 (**24**, 466), pl. 251.
Noualhier. 30 Je. 1857. (**3**, 254.)*
Pernot. 9 Jl. 1879. II, **10**, 450 (**22**, 150), pl. 127.
Sigl. 26 F. 1876. II, **7**, 86 (**17**, 38), pl. 22.
BLAST-ENGINE. **Boltri.** 19 Je. 1876. II, **7**, 288 (**17**, 240), pl. 67.
Jagn. 20 Ap. 1880. II, **11**, 228 (**23**, 329), pls. 66, 67.
Kaiser. 21 D. 1880. II, **11**, 881 (**24**, 482), pl. 254.
Robertson. 19 Ag. 1873. II, **4**, 393 (**13**, 373), pl. 103.
Taverdon e Roulina. 18 Mr. 1879. II, **10**, 114 (**21**, 314), pl. 36.
Testud de Beauregard. 16 Je. 1865. I, **2**, 168 (**6**, 152), pl. 41.
Westerman fratelli. 30 Je. 1859. (**2**, 253.)* (*Sardinia.*)
Worms de Romilly. 19 Jl. 1875. II, **6**, 386 (**16**, 154), pl. 85—Ex. **12**, 903 (**26**, 453).
Wyss e Studer. 22 D. 1873. II, **4**, 606 (**14**, 86), pl. 169.
steam. **Chaumé.** 19 D. 1868. I, **5**, 408 (**8**. 479), pl. 120.
BLAST-FURNACE gases, using for heating reverberatory furnaces. **de Langlade.** 25 O. 1871. II, **2**, 370 (**11**, 292), pl. 81—Ex. **8**, 505 (**19**, 95).
injecting liquid fuel. **Criner.** 10 Je. 1880. II, **11**, 373 (**23**, 474), pl. 106.
lignite fuel for. **Ponsard.** 18 O. 1865. I, **2**, 295 (**6**, 279).
olive fuel for. **Ponsard.** 30 N. 1865. I, **2**, 325 (**6**, 309).
slag for building material. **Fabre.** 12 Mr. 1873. II, **4**, 119 (**13**. 99).
BLASTING. **Buckwell.** 27 Ap. 1869. I, **6**, 162 (**9**, 178).
Girard. 30 S. 1863. (**4**, 73)*—Ex. I, **2**, 254 (**6**, 238).
Gros. 19 Jl. 1865. I, **2**, 203 (**6**, 187), pl. 56.
Tatti, etc. 22 F. 1866. I, **3**, 41 (**6**, 367).
Wichersheimer et Poch. 30 N. 1881. II, **12**, 1070 (**27**, 120).
plug. **Sutherland.** 31 D. 1863. (**4**, 137.)* Ad. I, **1**, 302 (**5**, 238), pl. 31—Ex. I, **1**, 557 (**5**, 494).
powder. **Murtineddu.** 31 D. 1856. (**1**, 289.)* (*Sardinia.*)
BLEACHING. **Claussen.** 26 N. 1851. 22.* (*Sardinia.*)
Delabone. 21 Ja. 1882. II, **13**, 43 (**27**, 315.)
Engel. 15 D. 1874. II, **5**, 610 (**15**, 219).
Kauffmann. 10 Je. 1880. II, **11**, 370 (**23**, 471)—Ex. **12**, 592 (**26**, 142).
Mittler ed Enderlin. 10 Ag. 1881. II, **12**, 735 (**26**, 285), pl. 190.
Ugone fratelli. 8 Mr. 1881. II, **12**, 174 (**25**, 224).
and softening fibers. **Strangman.** 31 Mr. 1868. I, **5**, 60 (**8**, 130), pl. 15.
boiler. **Cerruti e Sella.** 25 S. 1880. II, **11**, 658 (**24**, 259), pl. 190.
compound. **Brochocki e Comp.** 19 D. 1876. II, **7**, 601 (**18**, 54).
— **Lazzarini.** 28 Ag. 1877. II, **8**, 513 (**19**, 103).
— **Mayer-Levy e Cerf.** 23 Jl. 1881. II, **12**, 665 (**26**, 215)
cotton. **Engeler.** 13 Ag. 1880. II, **11**, 541 (**24**, 145).
— thread. **Rusch.** 16 D. 1878. II, **9**, 773 (**21**, 128)—Ex. **10**, 698 (**22**, 398).
fibers. **Buchy e Strangman.** 12 O. 1881. II, **12**, 917 (**26**, 467), pl. 238.
— yarns and textiles. **Tessié du Motay.** 13 Mr. 1868. I, **5**, 20 (**8**, 90).
flax and hemp. **Ferrero.** 30 Je. 1856. (**1**, 168.)* (*Sardinia.*)
— **Ferrero.** 28 Je. 1867. I, **4**, 206 (**7**, 346).
— **Veter.** 20 O. 1864. I, **1**, 474 (**5**, 411).
linen and hemp. **Pontiggia.** 20 F. 1880. II, **11**, 89 (**23**, 190).
silk. **Tessié du Motay.** 27 Je. 1877. II, **8**, 367 (**18**, 457).
wool. **Daudier père et fils.** 27 Je. 1876. II, **7**, 316 (**17**, 268).
— **Puech.** 29 O. 1877. II, **8**, 623 (**19**, 213). Ad. **8**, 680 (**19**, 270).

BLIND. **André.** 20 My. 1878. II, **9**, 317 (**20**, 172), pl. 86.
Kauffmann. 20 Je. 1881. II, **12**, 543 (**26**, 93), pl. 136.
Lauro. 30 S. 1857. (**1**, 472.)* (*Sardinia.*)
Mennons. 30 Je. 1857. (**1**, 428.)* (*Sardinia.*)
de Medici. 30 S. 1856. (**2**, 116.)* (*Sardinia.*)
Rühr. 31 Ag. 1881. II, **12**, 789 (**26**, 339), pl. 208. Ad. **13**, 16 (**26**, 339), pl. 5.
Vogdt. 30 Ja. 1880. II, **11**, 37 (**23**, 138), pl. 12.
slat. **Tubi.** 9 Jl. 1879. II, **10**, 441 (**22**, 141), pl. 125.
BLOCK. *See* Alphabet, Cement, Deadeye, Hat, Kindling, Match, Paving, Pulley.
BOAT. *See also* Bathing, Dock-drying, Life, Steam, Torpedo, Toy.
Bartelli. 30 S. 1854. (**2**, 170.)* (*Sardinia.*)
Biotti e Crespi. 29 S. 1877. II, **8**, 551 (**19**, 141), pl. 139.
Grande. 30 D. 1860. (**2**, 464.)* (*Sardinia.*)
Panizza. 10 My. 1880. II, **11**, 280 (**23**, 381), pl. 82.
building. **Thompson.** 30 Je. 1861. (**3**, 48.)*
— **Thompson.** 9 Ap. 1864. I, **1**, 84 (**5**, 20), pls. 3, 4, 5.
circular. **Arman.** 2 Je. 1870. II, **1**, 223 (**10**, 223), pl. 56.
detaching. **Engel.** 27 O. 1873. II, **4**, 524 (**14**, 4), pl. 149.
— apparatus. **Brice.** 13 O. 1876. II, **7**, 500 (**17**, 453), pl. 125.
— — **Brice.** 15 Mr. 1877. II, **8**, 115 (**18**, 205), pl. 29.
— — **Christie.** 14 Ag. 1876. II, **7**, 405 (**17**, 357), pl. 100.
heating and ventilating. **Grandjean.** 4 Mr. 1870. II, **1**, 79 (**10**, 79), pls. 15, 16.
hydrodynamic. **Simonetta e Giussani.** 30 Je. 1862. (**3**, 293.)*
iron. **Lungley.** 31 Mr. 1861. (**2**, 485)*—Ex. I, **1**, 347 **5**, 284).
sectional. **Perelli-Ercolini.** 21 Jl. 1864. I, **1**, 365 (**5**, 302), pl. 67.
submarine. **Nordenfelt.** 12 S. 1881. II, **12**, 816 (**26**, 366), pl. 217.
transporting camel. **Satre.** 28 Je. 1879. II, **10**, 403 (**22**, 103), pl. 116.
velocipede. **Uberti.** 31 Jl. 1880. II, **11**, 516 (**24**, 117), pl. 146.
BOBBIN. *See also* Loom shuttle.
Frister e Rossmann. 6 Ap. 1881. II, **12**, 284 (**25**, 334), pl. 68.
BOBBIN-WINDER. **Abegg e Adolff.** 24 Mr. 1877. II, **8**, 137 (**18**, 227), pl. 35.
Corron. 4 D. 1880. II, **11**, 855 (**24**, 456), pl. 250.
BOILER. *See also* Bleaching, Brewing, Coffee, Cooking, Dyeing, Egg, Fat, Glue, Locomotive, Milk, Oil-seed, Olive, Paper pulp, Silk, Silk cocoon, Silk-spinning, Steam, Wash.
de Giacomi e Magiera. 26 Je. 1880. II, **11**, 424 (**24**, 25), pl. 119.
preventing overflow. **Marchand.** 30 S. 1858. (**2**, 169.)* (*Sardinia.*)
BOILING water mechanically. **Marco.** 21 Ap. 1866. I, **3**, 101 (**6**, 427).
BOLT. *See also* Flour, Sash, Screw.
machine. **Gauthier.** 30 S. 1863. (**4**, 70)*—Ex. I, **1**, 281 (**5**, 217).
— **Henrion.** 22 F. 1876. II, **7**, 72 (**17**, 24), pl. 18.
— **Le Blanc et Vincent.** 15 N. 1877. II, **8**, 653 (**19**, 243), pl. 171.
— **Postlethwaite.** 11 Ag. 1869. I, **6**, 317 (**9**, 332), pls. 106, 107.
manufacture for armor plate. **Barba.** 21 O. 1875. II, **6**, 555 (**16**, 323)—Ex. **12**, 1075 (**27**, 125).
BOMBARDONE. **Santucci.** 31 D. 1862. (**3**, 367)*—Ex. I, **3**, 18 (**6**, 344).
BOMBSHELL. **Whitworth.** 31 Mr. 1863. (**3**, 426.)*
BONE button machine. **Robbiati.** 15 Ap. 1882. II, **13**, 325 (**28**, 97), pl. 85.
calcining furnace. **Martelloni.** 6 S. 1880. II, **11**, 627 (**24**, 228), pl. 172.
decomposing. **Vallini.** 23 Jl. 1868. I, **5**, 253 (**8**, 323)—Ex. **6**, 371 (**9**, 387).
painting and dyeing. **Batonnier.** 31 Mr. 1881. II, **12**, 269 (**25**, 319).
purifying. **Cichetti.** 20 My. 1871. II, **2**, 123 (**11**, 45), pl. 28.
— **Piperno.** 28 Ag. 1867. I, **4**, 209 (**7**, 349).
— **Barbarara.** 31 D. 1867. I, **4**, 416 (**8**, 57).
BONEBLACK manufacture. **Lagard.** 31 D. 1858. (**2**, 603.)* (*Sardinia.*)
— **Vinci.** 30 S. 1861. (**3**, 138.)*
— from animal refuse **Anthony.** 18 Mr. 1879. II, **10**, 120 (**21**, 320), pl. 43.
revivifying. **Leplay et Cuisinier.** 31 Mr. 1862. (**3**, 216.)*
— furnace. **Ruelle.** 10 Ap. 1879. II, **10**, 212 (**21**, 412), pl. 63.
BOOK case. *See also* Bed.
— **Giglioli.** 28 F. 1871. II, **2**, 58 (**10**, 480), pl. 7.
endless. **Massano.** 31 Ja. 1874. II, **5**, 35 (**14**, 144), pl. 5.
sewing machine. **Smyth.** 18 Mr. 1879. II, **10**, 129 (**21**, 329), pl. 46.
— **Smyth.** 11 Ja. 1881. II, **12**, 525 (**26**, 75), pls. 131, 132.
BOOKBINDING. **Mabute.** 17 F. 1876. II, **7**, 65 (**17**, 19), pl. 17.
Schubert. 18 Ja. 1882. II, **13**, 36 (**27**, 308), pl. 9.
BOOT. **Rossi.** 11 My. 1881. II, **12**, 403 (**25**, 453), pl. 96.
and shoe. **Ferrero e Mosca.** 30 S. 1863. (**3**, 408.)*
— **Maggiolo.** 9 N. 1878. II, **9**, 681 (**21**, 36), pl. 208.
— **Overa.** 28 O. 1868. I, **5**, 362 (**8**, 433), pl. 102.
— **Rhodes.** 31 Jl. 1873. II, **4**, 371 (**13**, 351), pl. 99.
— bending machine. **Bodin e Brunel-Marchand.** 23 Ap. 1873. II, **4**, 191 (**13**, 171), pl. 52. Ad. **4**, 447 (**13**, 427), pl. 122.
— cleaning machine. **Pepper.** 24 Ap. 1865. I, **2**, 131 (**6**, 115), pl. 14.
— india-rubber, manufacture. **Gaillard.** 31 D. 1861. (**3**, 169.)*
— machine. **Blancheton-Mollière.** 30 Je. 1858. (**2**, 77.)* (*Sardinia.*)
— — **Larrabee.** 25 Mr. 1876. II, **7**, 136 (**17**, 88), pl. 30.
— manufacture. **Bernard.** 30 Je. 1860. (**2**, 359.)* (*Sardinia.*)
— — **Brandon.** 28 Ag. 1873. II, **4**, 420 (**13**, 400), pl. 113.
— — **Duchatel.** 31 D. 1860. (**2**, 443.)* (*Sardinia.*)
— — **Greenwood.** 11 My. 1869. I, **6**, 186 (**9**, 202), pls. 57–61.
— — **Larrabee.** 18 D. 1872. II, **3**, 555 (**12**, 455), pl. 136.
— — **Mackay.** 11, **4**, 6 (**12**, 486).
— — **Schmidt, etc.** 28 N. 1868. I, **5**, 380 (**8**, 451).
— nailing machine. **Brandon.** 1 My. 1872. II, **3**, 180 (**12**, 80), pl. 49—Ex. **4**, 193 (**13**, 173).
— stretching. **Brunel.** 16 Jl. 1872. II, **3**, 323 (**12**, 223), pl. 83.
— waterproof. **Casasopra.** 31 Mr. 1860. (**2**, 365.)* (*Sardinia.*)
— wooden sole. **Hill.** 31 Mr. 1861. (**3**, 16.)*
blacking machine. **Audoye.** 19 S. 1878. II, **9**, 573 (**20**, 428), pls. 175, 176. Ad. **10**, 847 (**23**, 47), pl. 241; **11**, 300 (**23**, 401), pl. 89.
brushing machine. **Courtil.** 22 Mr. 1881. II, **12**, 212 (**25**, 262), pl. 48.
— **Röder.** 14 N. 1874. II, **5**, 555 (**15**, 164), pl. 131.
leg in one piece. **Franck.** 24 S. 1866. I, **3**, 215 (**7**, 41), pl. 63.
shaping machine. **Mackay.** 12 Jl. 1873. II, **4**, 345 (**13**, 325), pl. 88.
waterproof. **Moiraghi.** 8 Ap. 1872. II, **3**, 130 (**12**, 30), pl. 42.
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BORE-BIT. **Cassagnino.** 30 N. 1875. II, **6**, 624 (**16**, 392), pl. 253.
BOTTLE, aërated liquid. **Barrett e Codd.** 30 My. 1874. II, **5**, 259 (**14**, 368), pl. 59.
cap. **Betts.** 31 D. 1863. (**4**, 165.)*—Ex. I, **1**, 238 (**5**, 174); **6**, 440 (**9**, 456); II, **3**, 523 (**12**, 423).
— machine. **Betts.** 14 Ap. 1869. I, **6**, 136 (**9**, 152), pl. 37—Ex. II, **3**, 113 (**12**, 13); **9**, 174 (**20**, 29); **12**, 227 (**25**, 277).
— — **Brandon.** 30 N. 1872. II, **3**, 521 (**12**, 421), pl. 125.
— manufacture. **Lorenz.** 30 N. 1878. II, **9**, 722 (**21**, 77), pl. 217.
capping. **Jacob.** 30 S. 1876. II, **7**, 489 (**17**, 442).
corking. **de Mestre.** 12 N. 1872. II, **3**, 498 (**12**, 398), pl. 122. Ad. **7**, 378 (**17**, 330).
— **Thémar.** 31 Mr. 1858. (**2**, 49.)* (*Sardinia.*)
— machine. **Cena.** 31 Mr. 1858. (**2**, 52.) Ad. (**1**, 49)* (*Sardinia.*)

BOTTLE corking machine—continued.
— — **Maspes, etc.** 26 O. 1865. I, **2**, 287 (**6**, 271), pl. 84.
— — **Richelmi.** 30 S. 1861. (**3**, 97.)*
— — **Thiabaud.** 12 N. 1879. II, **10**, 734 (**22**, 434), pl. 201.
cover and machinery for making. **Clark.** 29 Ag. 1866. I, **3**, 193 (**7**, 19), pl. 60.
— machine, straw. **D'Argelos.** 5 Je. 1869. I, **6**, 225 (**9**, 241), pl. 72.
holder. **Mauche.** 15 D. 1877. II, **8**, 726 (**19**, 316), pl. 196.
leather. **Carletti.** 26 Mr. 1872. II, **3**, 120 (**12**, 20), pl. 33.
making machine. **Boucher aîné.** 21 Ap. 1881. II, **12**, 344 (**25**, 394), pl. 82.
neck molding machine. **Roselli.** 3 Mr. 1873. II, **4**, 101 (**13**, 81), pl. 28—Ex. **5**, 186 (**14**, 295).
neck, screw-threading. **Russo.** 10 Ap. 1872. II, **3**, 140 (**12**, 40), pl. 45. Ad. **3**, 518 (**12**, 418), pl. 125—Ex. **4**, 117 (**13**, 97).
neck shaping tool. **Rozan.** 14 My. 1880. II, **11**, 308 (**23**, 409), pl. 86.
nursing. **Brière.** 21 Ap. 1875. II, **6**, 195 (**15**, 463), pl. 39. Ad. **7**, 247 (**17**, 199), pl. 57.
— **Saint Aubin.** 20 Ap. 1872. II, **3**, 166 (**12**, 66), pl. 48.
sealing. **Jacob.** 21 Ap. 1876. II, **7**, 414 (**17**, 366).
siphon. **Musitzky.** 31 Mr. 1882. II, **13**, 295 (**28**, 67), pl. 75.
stopper. **Baroni.** 29 My. 1877. II, **8**, 308 (**18**, 398), pl. 83.
— **Barret.** 28 Mr. 1879. II, **10**, 171 (**21**, 371), pl. 52.
— **Barret e Elers.** 4 N. 1871. II, **2**, 391 (**11**, 313), pl. 84—Ex. **3**, 507 (**12**, 407); **8**, 495 (**19**, 85).
— **Barrett.** 19 Jl. 1879. II, **10**, 476 (**22**, 176), pl. 132.
— **Barrett.** 23 Ap. 1880. II, **11**, 248 (**23**, 349), pl. 68.
— **Bergetta.** 28 D. 1871. II, **2**, 459 (**11**, 381), pl. 95.
— **Bernardi.** 31 Jl. 1873. II, **4**, 367 (**13**, 347), pl. 99—Ex. **5**, 487 (**15**, 96).
— **Bohman.** 22 Mr. 1881. II, **12**, 219 (**25**, 269), pl. 54.
— **Brambilla.** 23 Je. 1874. II, **5**, 288 (**14**, 397), pl. 66—Ex. **8**, 407 (**18**, 497).
— **Casari.** 10 D. 1877. II, **8**, 701 (**19**, 291), pl. 186. Ad. **9**, 687 (**21**, 42), pl. 208.
— **Coci.** 9 Jl. 1879. II, **10**, 458 (**22**, 158), pl. 130.
— **Dassori.** 20 Jl. 1877. II, **8**, 411 (**19**, 1), pl. 106.
— **Fabbi.** 27 O. 1873. II, **4**, 516 (**13**, 496), pl. 147.
— **Fenzi e Costa.** 28 Jl. 1881. II, **12**, 673 (**26**, 223), pl. 167.
— **Fortuna e Egidi.** 30 N. 1878. II, **9**, 748 (**21**, 103), pl. 222.
— **Fritzner.** 27 Je. 1876. II, **7**, 308 (**17**, 260), pl. 73.
— **Fritzner.** 27 S. 1879. II, **10**, 622 (**22**, 322), pl. 174.
— **Fritzner.** 2 Mr. 1881. II, **12**, 150 (**25**, 200), pl. 39—Ex. **12**, 908 (**26**, 458). Ad. **12**, 1163 (**27**, 213), pl. 325.
— **Gori.** 29 Jl. 1874. II, **5**, 356 (**14**, 465), pl. 79.
— **Guizzardi e Masetti.** 15 O. 1874. II, **5**, 486 (**15**, 95), pl. 114.
— **de Harilaoz.** 20 My. 1878. II, **9**, 318 (**20**, 173), pl. 87.
— **Hurel.** 30 N. 1881. II, **12**, 1069 (**27**, 119), pl. 292.
— **Negroni e Degiovanni.** 20 Ap. 1872. II, **3**, 165 (**12**, 65), pl. 46.
— **Neri.** 22 Mr. 1871. II, **2**, 76 (**10**, 498), pl. 14.
— **Olivero.** 19 Ag. 1871. II, **2**, 272 (**11**, 194), pl. 58.
— **Parodi.** 17 Jl. 1877. II, **8**, 402 (**18**, 492), pl. 108.
— **Ponzio e Mauriet.** 25 Ap. 1878. II, **9**, 231 (**20**, 86), pl. 55.
— **Repetti.** 30 S. 1876. II, **7**, 472 (**17**, 424), pl. 113. Ad. **8**, 457 (**19**, 47), pl. 118.
— **Rule.** 30 N. 1876. II, **7**, 568 (**18**, 21), pl. 148.
— **Russo.** 26 N. 1870. II, **1**, 392 (**10**, 392), pl. 99. Ad. **2**, 57, 137 (**10**, 479, **11**, 59), pls. 8–27.
— **Rylands.** 14 O. 1879. II, **10**, 666 (**22**, 366), pl. 181—Ex. **11**, 692 (**24**, 293).
— **Salomons.** 30 N. 1872. II, **3**, 528 (**12**, 428), pl. 128.
— **Semino e Telesio.** 12 Je. 1876. II, **7**, 278 (**17**, 230), pl. 64.
— **Telesio.** 14 Je. 1877. II, **8**, 343 (**18**, 433), pl. 95—Ex. **9**, 419 (**20**, 274).
— **Thompson.** 16 Ag. 1864. I, **1**, 413 (**5**, 350), pl. 44.

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— **Thompson.** 24 Ag. 1865. I, **2**, 232 (**6**, 216), pl. 62.
— **Thompson.** 30 Ag. 1879. II, **10**, 581 (**22**, 281), pl. 159.
— **Thompson.** 30 Jl. 1881. II, **12**, 692 (**26**, 242), pl. 178.
— **Viollet.** 18 Je. 1868. I, **5**, 213 (**8**, 283), pl. 57—Ex. **6**, 278 (**9**, 294).
— aërated liquid. **Lamont.** 11 F. 1879. II, **10**, 68 (**21**, 268), pl. 20.
— sectional cork. **Ondano.** 16 Ap. 1864. I, **1**, 143 (**5**, 79).
stoppering. **Rouzand.** 12 S. 1874. II, **5**, 443 (**15**, 52), pl. 105.
stoppering machine. **Assmann.** 28 S. 1881. II, **12**, 865 (**26**, 415), pl. 230.
— **Borello fratelli.** 20 N. 1874. II, **5**, 563 (**15**, 172), pl. 133.
— **Folli.** 14 Ag. 1874. II, **5**, 402 (**15**, 11). pl, 93.
— **Thompson.** 31 Je. 1863. (**4**, 16.)*
wooden. **Guglielminetti.** 23 Ap. 1866. I, **3**, 116 (**6**, 442), pl. 33. Ad. II, **4**, 82 (**13**, 62), pl. 24.
wrapping machine. with cord, etc. **Villa.** 31 Mr. 1865. I, **2**, 105 (**6**, 89), pl. 25.

BOTTLING. **Paoletti e Maffiotti.** 15 Mr. 1877. II, **8**, 104 (**18**, 194), pl. 27.
aërated liquids. **Barrett e Codd.** 30 My. 1874. II, **5**, 259 (**14**, 368), pl. 59.
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— **Borello.** 31 Mr. 1868. I, **5**, 72 (**8**, 142), pl. 18.
— **Borello fratelli.** 18 Mr. 1872. II, **3**, 97 (**11**, 497), pl. 26.
— **Rosso.** 20 Mr. 1875. II, **6**, 198 (**15**, 376), pl. 22.
— **Sudric.** 30 N. 1878. II, **9**, 731 (**21**, 86), pl. 222.
— **Sudric.** 30 N. 1878. II, **9**, 732 (**21**, 87), pl. 219—Ex. **12**, 744 (**26**, 294). Ad. **12**, 745 (**26**, 295), pl. 196.

BOX. *See also* Advertising, Axle, Ballot, Car-axle, Card, Cartridge, Gunpowder, Letter, Locomotive fire, Match, Metal, Musical, Packing, Paper, Preserve, Sheet metal, Silk-worm, Steam-engine, fire, Thrashing-machine, Wooden.
Menotti. 31 Mr. 1859. (**2**, 212).* (*Sardinia.*)
fastening, spring. **Trottier.** 30 S. 1871. II, **2**, 336 (**11**, 258), pl. 68.

BRACE, orthopædic. **Viget.** 13 Jl. 1880. II, **11**, 486 (**24**, 87), pl. 139.

BRACELET. **Baron.** 31 Ag. 1878. II, **9**, 538 (**20**, 293), pl. 165.
Crippa. 15 Mr. 1878. II, **9**, 119 (**19**, 474), pl. 31.
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Orry. 23 Ap. 1878. II, **9**, 217 (**20**, 72), pl. 55.
fastening. **Lejeune.** 30 Ap. 1878. II, **9**, 258 (**20**, 113), pl. 64.
— **Markowitsch e Scheid.** 29 F. 1878. II, **9**, 73 (**19**, 428), pl. 13.

BRAKE. *See also* Air, Broom, Car, Carriage, Electric, Electric car, Fiber, Flax, Hemp, Hydraulic, Inclined plane, Jute, Machinery, Ramie, Steam, Steam-engine, Tow, Wagon.
Roguet. 2 D. 1881. II, **12**, 112 (**27**, 177), pls. 317–319.
Touya. 31 Ja. 1881. II, **12**, 45 (**25**, 96), pl. 8—Ex. **13**, 99 (**27**, 371).
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— **Gelston e Mallory.** 30 S. 1863. (**4**, 56)*—Ex. I, **3**, 231 (**7**, 57); **4**, 276 (**7**, 416).
hemp. **Arfili.** 21 D. 1880. II, **11**, 867 (**24**, 468), pl. 252.
— **Battistini.** 14 Ja. 1882. II, **13**, 28 (**27**, 300), pl. 8.
— **Battistini.** 9 Mr. 1882. II, **13**, 174 (**27**, 446), pl. 49.
— flax, etc. **Valeriani.** 14 D. 1881. II, **12**, 1102 (**27**, 152), pl. 298.
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BRAN-DUSTER. **Marchese.** 20 D. 1865. I, **2**, 336 (**6**, 320), pl. 102.
Ravani. 17 Ja. 1866. I, **3**, 1 (**6**, 327), pl. 4.
Rocca. 18 Ap. 1865. I, **2**, 129 (**6**, 113), pl. 30.

BRASS, malleable. **Mornese.** 14 O. 1879. II, **10**, 657 (**22**, 357).

BREAD. **Morabito.** 22 Je. 1881. II, **12**, 557 (**26**, 107).
Valentini. 16 F. 1871. II, **2**, 42 (**10**, 464).
baking. **Tiraborelli.** 20 My. 1871. II, **2**, 131 (**11**, 53).
compressed. **Mouriès.** 2 My. 1870. II, **1**, 188 (**10**, 188).
from wheat without grinding. **Sézille.** 24 Ja. 1870. II, **1**, 25 (**10**, 25).
iron lactate. **Bozzelli.** 16 Ap. 1881. II, **12**, 322 (**25**, 372).
making. **Barthe.** 6 D. 1881. II, **12**, 1072 (**27**, 122), pl. 294.
— **Cianchettini.** 30 S. 1859. (**2**, 275).* (*Sardinia.*)
— **Durando.** 30 Je. 1855. (**1**, 28).* (*Sardinia.*)
— **Mège-Mouries.** 31 Mr. 1857. (**1**, 397).* (*Sardinia.*)
— **Palazzoli.** 13 S. 1870. II, **1**, 344 (**10**, 344), pls. 89, 90.
— **Piovano.** 31 D. 1872. II, **3**, 580 (**12**, 480), pl. 143.
— **Piovano.** 31 Ja. 1881. II, **12**, 41 (**25**, 91).
— **Sézille.** 30 N. 1874. II, **5**, 588 (**15**, 197).
— **Vicars père et fils, Ashmore et Smith.** 30 Je. 1861. (**3**, 55.)*
meat. **Bazzoni.** 14 D. 1881. II, **12**, 1091 (**27**, 141).
milk. **Bozzelli.** 16 Ap. 1881. II, **12**, 321 (**25**, 371).
BREAKWATER. **Giles.** 31 Mr. 1863. (**3**, 434).*
BREAST-PLATE. **Litta-Biumi.** 10 D. 1877. II, **8**, 712 (**19**, 302), pl. 187.
BREWING apparatus. **Dietsche.** 30 Ja. 1882. II, **13**, 70 (**27**, 342), pl. 22.
boiler. **Ellenberger.** 7 N. 1874. II, **5**, 535 (**15**, 144), pl. 124.
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Botteri. 26 Ag. 1871. II, **2**, 281 (**11**, 203)—Ex. **3**, 481 (**12**, 381); **4**, 588 (**14**, 68); **5**, 480 (**15**, 89); **6**, 562 (**16**, 320); **7**, 522 (**17**, 475); **8**, 599 (**19**, 189); **9**, 638 (**20**, 493).
Rizzoli. 28 N. 1873. II, **4**, 569 (**14**, 49), pl. 159.
burning. **Riatti.** 30 D. 1871. II, **2**, 471 (**11**, 393), pl. 98—Ex. **4**, 18 (**12**, 498). Ad. **4**, 348 (**13**, 328)—Ex. **5**, 203 (**14**, 312). Ad. **8**, 271 (**18**, 361).
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fire. **Legnani fratelli.** 31 D. 1862. (**3**, 374)*—Ex. I, **1**, 560 (**5**, 497).
— **Ruggeri.** 31 D. 1877. II, **8**, 751 (**19**, 344).
— magnesia. **Mallion-Fillon.** 10 F. 1881. II, **12**, 79 (**25**, 129).
hollow. **Zerrollo.** 31 Mr. 1865. I, **2**, 101 (**6**, 85), pl. 24.
imitation marble. **Società anonima per la fabbricazione di calce idraulica, cemento e gesso.** 31 D. 1879. II, **10**, 872 (**23**, 72).
— **Società anonima per la fabbricazione di calce idraulica, cemento e gesso.** 31 D. 1879. II, **10**, 873 (**23**, 73), pl. 243.
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— **Appiani.** 22 S. 1870. II, **1**, 359 (**10**, 359), pl. 92.
— **Appiani.** 16 S. 1872. II, **3**, 422 (**12**, 322), pl. 100. Ad. **6**, 506 (**16**, 274)—Ex. **6**, 507 (**16**, 275).
— **Baker.** 9 Mr. 1872. II, **3**, 65 (**11**, 465), pl. 19.
— **Balboni.** 15 Mr. 1877. II, **8**, 108 (**18**, 198), pl. 28.
— **Baldermann e Bernds.** 16 S. 1878. II, **9**, 559 (**20**, 414), pl. 173.
— **Baldinini.** 25 Je. 1875. II, 6, 343 (**16**, 111), pl. 74.
— **Ballerio, Busnelli e Zesi.** 23 Mr. 1870. II, **1**, 109 (**10**, 109), pl. 23—Ex. **2**, 2 (**10**, 424). Ad. **2**, 20 (**10**, 442), pl. 4.
— **Battoli.** 7 Ag. 1875. II, **6**, 408 (**16**, 176), pls. 92, 93.
— **Bianchi.** 27 D. 1881. II, **12**, 1161 (**27**, 211), pl. 316.
— **Bougleux.** 9 Ja. 1871. II, **2**, 8 (**10**, 430), pl. 1—Ex. **2**, 40 (**10**, 462).
— **Bremond.** 6 O. 1864. I, **1**, 461 (**5**, 398), pl. 75.
— **Caccialanza.** 21 Mr. 1874. II, **5**, 124 (**14**, 233), pl. 27.
— **Caccialanza.** 17 N. 1875. II, **6**, 591 (**16**, 359), pl. 144.
— **Capecchi.** 14 S. 1872. II, **3**, 413 (**12**, 313), pl. 103.
— **Cappeletto.** 6 Mr. 1874. II, **5**, 85 (**14**, 194), pl. 17.
— **Cerutti.** 26 D. 1870. II, **1**, 410 (**10**, 410), pl. 193.
— **Chinaglia.** 8 Jl. 1872. II, **3**, 297 (**12**, 197), pl. 67.
— **Fantuzzi.** 12 Ap. 1873. II, **4**, 164 (**13**, 144), pl. 46.
— **Fattori.** 18 S. 1877. II, **8**, 527 (**19**, 117), pl. 132, 133.
— **Galeazzo.** 30 Je. 1863. (**4**, 43)*—Ex. I, **1**, 389 (**5**, 326).

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— **Ghidotti e Guindani.** 2 Mr. 1881. II, **12**, 133 (**25**, 183), pl. 34.
— **Ghirlanda.** 25 S. 1871. II, **2**, 319 (**11**, 241), pl. 65—Ex. **3**, 438 (**12**, 338).
— **Ghirlanda.** 25 Mr. 1876. II, **7**, 134 (**17**, 86), pl. 29.
— **Hawley.** 27 Je. 1872. II, **3**, 267 (**12**, 167), pl. 73.
— **Hoffmann.** 20 Jl. 1870. II, **1**, 301 (**10**, 301), pls. 75, 76.
— **Inaudi.** 14 F. 1870. II, **1**, 62 (**10**, 62), pl. 19.
— **Inaudi.** 18 My. 1872. II, **3**, 206 (**12**, 106), pl. 59,
— **Lavagno.** 14 Je. 1870. II, **1**, 241 (**10**, 241), pl. 57.
— **Lavagno e Bossi.** 14 S. 1872. II, **3**, 414 (**12**, 314), pl, 99. Ad. **4**, 563 (**14**, 43), pl. 157—Ex. **4**, 565 (**14**, 45).
— **Maccaferri.** 22 O. 1872. II, **3**, 472 (**12**, 372), pl. 115.
— **Magnan.** 7 F. 1872. II, **3**, 51 (**11**, 451), pl. 15.
— **Marchino.** 28 Ap. 1873. II, **4**, 199 (**13**, 179), pl. 54.
— **Martel.** 10 Mr. 1875. II, **6**, 103 (**15**, 371).
— **Montagné.** 15 Mr. 1881. II, **12**, 181 (**25**, 231), pl. 44. Ad. **12**, 449 (**25**, 499), pl. 114; **12**, 1142 (**27**, 192), pl. 323—Ex. **13**, 323 (**28**, 95).
— **Müller.** 20 D. 1879. II, **10**, 842 (**23**, 42), pl. 239.
— **Mundo.** 14 My. 1874. II, **5**, 222 (**14**, 331), pl. 44.
— **Murnigotti.** 20 Je. 1873. II, **4**, 289 (**13**, 269), pl. 37.
— **Novi ed al.** 10 Ag. 1868. I, **5**, 276 (**8**, 346), pl. 84—Ex. II, **2**, 208, 209 (**11**, 130, 131).
— **Novi ed al.** 19 D. 1868. I, **5**, 411 (**8**, 482), pl. 121.
— **Novi ed al.** 22 My. 1869. I, **6**. 207 (**9**, 223), pls. 58, 59.
— **Péchiné et Colas.** 30 S. 1856. (**1**, 241).* (*Sardinia.*)
— **Ponzani.** 14 My. 1874. II, **5**, 223 (**14**, 332), pl. 49.
— **Querini.** 29 D. 1873. II, **4**, 613 (**14**, 93), pl. 171.
— **Righini.** 13 Mr. 1871. II, **2**, 63 (**10**, 485), pl. 9.
— **Righini.** 23 Ag. 1872. II, **3**, 382 (**12**, 282), pl. 97.
— **Roberti e figli.** 30 Mr. 1874. II, **5**, 132 (**14**, 241), pl. 31.
— **Romano.** 31 Mr. 1861. (**2**, 481.)*
— **Rosi.** 16 Je. 1869. I, **6**, 240 (**9**, 256), pl. 79.
— **Sacuto e Padora.** 23 Jl. 1869. I, **6**, 293 (**9**, 309), pl. 97.
— **Viani e Sosso.** 2 F. 1871. II, **2**, 23 (**10**, 445), pl. 4.
— **Villa.** 30 D. 1871. II, **2**, 478 (**11**, 400), pl. 100.
— **Villa.** 30 Mr. 1876. II, **7**, 150 (**17**, 102), pl. 36.
— **Zoia.** 31 Mr. 1870. II, **1**, 148 (**10**, 148), pl. 34.
— gas. **Vanzetti.** 6 Je. 1872. II, **3**, 231 (**12**, 131), pl. 64.
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— **Bawden.** 30 D. 1864. I, **1**, 539 (**5**, 476), pl. 85.
— **Bonaldi.** 8 Ap. 1852.* 26. (*Sardinia.*)
— **Bonelli.** 3 S. 1850.* 12. (*Sardinia.*)
— **Borello.** 31 Mr. 1859. (**2**, 207.)* (*Sardinia.*)
— **Boudriot.** 14 My. 1874. II, **5**, 228 (**14**, 337), pl. 50.
— **Boulet.** 26 N. 1867. I, **4**, 383 (**8**, 24), pl. 115.
— **Boulet fratelli.** 15 Ap. 1874. II, **5**, 166 (**14**, 275), pls. 36, 37.
— **Cazenave et Cie.** 30 Je. 1861. (**3**, 74.)*—Ex. I, **1**, 219 (**5**, 155); **4**, 229 (**7**, 369).
— **Chabert.** 30 Je. 1855. (**1**, 159.)* (*Sardinia.*)
— **Chinaglia.** 31 Mr. 1865. I, **2**, 97 (**6**, 81), pl. 21.
— **Chinaglia.** 24 Ap. 1870. II, **1**, 162 (**10**, 162), pl. 38.
— **Chinaglia.** 28 D. 1871. II, **2**, 464 (**11**, 386), pl. 97.
— **Chinaglia.** 7 Jl. 1874. II, **5**, 340 (**14**, 449), pls. 78, 79.
— **Couillard.** 28 Ag. 1873. II, **4**, 416 (**13**, 396), pl. 107.
— **Crary.** 28 My. 1868. I, **5**, 147 (**8**, 217), pl. 39.
— **Croze.** 27 Jl. 1870. II, **1**, 270 (**10**, 270), pl. 68—Ex. **2**, 207 (**11**, 129); **7**, 326 (**17**, 278).
— **Durand.** 15 N. 1867. I, **4**, 372 (**8**, 15), pl. 116.
— **Durand e Marais.** 21 Ap. 1875. II, **6**, 198 (**15**, 466), pl. 41.
— **Facciota.** 24 Mr. 1865. I, **2**, 74 (**6**, 58), pl. 15.
— **Geoffroy.** 24 Ag. 1865. I, **2**, 229 (**6**, 213), pl. 61.
— **Gregg.** 15 Je. 1867. I, **4**, 195 (**7**, 335), pls. 68, 69. Ad. **4**, 294 (**7**, 434), pl. 87.
— **Guthrie.** 30 S. 1878. II, **9**, 594 (**20**, 449), pl. 184.
— **Hertel.** 30 N. 1864. I, **1**, 504 (**5**, 441), pl. 83.
— **Hertel e Comp.** 9 Jl. 1869. I, **6**, 264 (**9**, 280), pl. 89.
— **Kreutzer.** 30 S. 1863. (**4**, 90.)*
— **de La Combe et frères.** 31 Mr. 1864. (**4**, 185.)*
— **Morand.** 10 Mr. 1871. II, **2**, 61 (**10**, 483), pl. 9—Ex. **5**. 160 (**14**, 269).

BRICK machine—continued.
— **Mundo.** 15 Ap. 1874. II, **5**, 162 (**14**, 271), pl. 33.
— **Murnigotti.** 30 S. 1871. II, **2**, 330 (**11**, 252), pl. 69.
— **Novis.** 5 Mr. 1880. II, **11**, 120 (**23**, 221), pl. 43..
— **Pollock.** 30 Je. 1870. II, **1**, 276 (**10**, 276), pl. 69—Ex. **1**, 365 (**10**, 365); **2**, 71 (**10**, 493).
— **Riccioni.** 20 N. 1865. I, **2**, 309 (**6**, 293), pl. 91.
— **Sayn e Turr.** 26 Ja. 1872. II, **3**, 22 (**11**, 422), pl. 5.
— **Schlickeysen.** 21 D. 1863. (**4**, 140.)*
— **Secco.** 31 Mr. 1857. (**1**, 348.)* (*Sardinia.*)
— **Société nouvelle des forges et chantiers de la Méditerranée.** 9 Ap. 1877. II, **8**, 182 (**18**, 273), pl. 53.
— **Tripoti e Zampi.** 30 S. 1857. (**1**, 484.)* (*Sardinia.*)
— **Vanderaey.** 9 Jl. 1869. I, **6**, 263 (**9**, 279), pl. 90.
— **Vavrek, etc.** 22 My. 1866. I, **3**, 122 (**6**, 448), pls. 35, 36.
— **Zampi e Tripoti.** 30 Je. 1855. (**1**, 21.)* (*Sardinia.*)
— cutter. **Hertel.** 20 N. 1872. II, **3**, 505 (**12**, 405), pl. 122.
— platform. **Vacani ed al.** 28 Je. 1867. I, **4**, 208 (**7**, 348), pl. 66.
— tricolored. **Allardi.** 31 D. 1857. (**2**, 25.)* (*Sardinia.*)
manufacture. **Buckwell.** 1 My. 1872. II, **3**, 181 (**12**, 81)—Ex. **6**, 176 (**15**, 444).
— **Clayton figlio e Howlett.** 28 N. 1873. II, **4**, 567 (**14**, 47), pl. 159.
— **Deléon.** 28 F. 1874. II, **5**, 75 (**14**, 184).
— **Ferrero.** 30 D. 1878. II, **9**, 815 (**21**, 170).
— **Fontana.** 10 Mr. 1875. II, **6**, 100 (**15**, 368), pl. 20.
— **Larmanjat.** 31 My. 1879. II, **10**, 335 (**22**, 35), pl. 91.
— **Manzetti, Rore e Berard.** 5 Mr. 1877. II, **8**, 100 (**18**, 190).
— **Murnigotti.** 14 F. 1873. II, **4**, 73 (**13**, 53), pl. 20.
— **Orsenigo.** 14 Ag. 1876. II, **7**, 392 (**17**, 344), pl. 98.
— **Petich.** 17 F. 1872. II, **3**, 52 (**11**, 452)—Ex. **4**, 168 (**13**, 148).
— **Platt et Richardson.** 30 Je. 1863. (**4**, 39.)*
— **Scott.** 12 S. 1871. II, **2**, 313 (**11**, 235)—Ex. **5**, 275 (**14**, 384).
— **Società edificatrice italiana.** 1 My. 1872. II, **3**, 178 (**12**, 78).
— **Terrachini.** 10 Ap. 1872. II, **3**, 149 (**12**, 49).
— by hydraulic pressure. **Genna.** 23 Ag. 1881. II, **12**, 758 (**26**, 308), pl. 197.
— tool. **Ferrari.** 24 D. 1878. II, **9**, 787 (**21**, 142), pl. 238.
ornamental. **Pepi.** 21 S. 1876. II, **7**, 455 (**17**, 407).
press. **Schneider.** 11 Mr. 1882. II, **13**, 182 (**27**, 454), pl. 52.
— **Théolan.** 12 Mr. 1866. I, **3**, 52 (**6**, 378), pl. 22.
roller. **Jay et Jardin.** 31 Mr. 1860. (**2**, 342.)* (*Sardinia.*)
wood, tan, sawdust, etc. **Germaix.** 4 N. 1865. I, **2**, 307 (**6**, 291).

BRIDGE. See *also* Billiard.
Cottrau. 25 Mr. 1878. II, **9**, 163 (**20**, 18), pl. 42.
Cottrau. 24 D. 1881. II, **12**, 1152 (**27**, 202), pl. 322.
Eiffel. 8 F. 1882. II, **13**, 90 (**27**, 362), pl. 29.
Ghizi. 15 D. 1879. II, **10**, 832 (**23**, 32), pls. 233-235.
Ronchi. 30 Je. 1860. (**2**, 410.)* (*Sardinia.*)
arch-suspension. **Giordano.** 30 Je. 1855. (**1**, 49.)* (*Sardinia.*)
— **Vergniais.** 30 S. 1855. (**1**, 44.)* (*Sardinia.*)
building. **Cestelli.** 31 D. 1873. II, **4**, 624 (**14**, 104), pls. 172, 173.
draw. **Oudry.** 30 Je. 1861. (**3**, 80.)*
— **Taverna.** 30 S. 1859. (**2**, 281.)* (*Sardinia.*)
— **Weickum.** 20 Ag. 1874. II, **5**, 411 (**15**, 20), pl. 96—Ex. **6**, 614 (**16**, 382); **7**, 458 (**17**, 410); **12**, 849 (**26**, 399).
floating. **Parodi fratelli.** 31 Jl. 1873. II, **4**, 375 (**13**, 355), pl. 99. Ad. **5**, 473 (**15**, 52), pl. 110—Ex. **7**, 497 (**17**, 450); **10**, 673 (**22**, 373).
— **Stockman.** 9 N. 1881. II, **12**, 1007 (**27**, 57), pl. 275.
girder. **Kochs.** 23 My. 1865. I, **2**, 144 (**6**, 128), pls. 34-36.
iron. **Buchwel.** 22 Ja. 1867. I, 4, 34 (**7**, 173).
— **Chabert.** 30 Je 1855. (**1**, 29.)* (*Sardinia.*)
— **Howard.** 31 D. 1862. (**3**, 379.)*
— and steel. **Coletti.** 30 Je. 1856. (**1**, 189.)* (*Sardinia.*)

BRIDGE—continued.
metallic. **Boutet.** 24 Ja. 1870. II, **1**, 30 (**10**, 30), pl. 5.
— **Compagnie de Fives-Lille.** 27 N. 1871. II, **2**, 420 (**11**, 342), pl. 87.
pier. **Società de costruzioni meccaniche e di ponti in ferro Lardy, Galepin, Sue e Jacob.** 3 Je. 1878. II, **9**, 346 (**20**, 201), pl. 96.
pontoon. **Clark e Standfield.** 10 O. 1874. II, **5**, 472 (**15**, 81), pls. 109, 110.
— **Stack.** 9 Ap. 1864. I, **1**, 91 (**5**, 27), pl. 8.
— **Valle.** 31 D. 1857. (**1**, 496), Al. (**1**, 3).* (*Sardinia.*)
portable. **Mariani.** 28 Ag. 1877. II, **8**, 512 (**19**, 102), pl. 129.
— **Regis.** 3 Jl. 1865. I, **2**, 191 (**6**, 175), pl. 57.
railway. **Martin.** 30 Je. 1861. (**3**, 68.) Ad. (**1**, 99).*
suspension. **Hallidie.** 23 Ag. 1867. I, **4**, 290 (**7**, 430), pl. 90.
temporary. **Cottrau.** 3 Je. 1876. II, **7**, 272 (**17**, 224), pl. 65.

BRIDLE. **Kost.** 31 Jl. 1880. II, **11**, 515 (**24**, 116), pl. 145.
attachment. **Bontemps.** 28 F. 1880. II, **11**, 99 (**23**, 200), pl. 33.
bit. **Castelli.** 19 Je. 1877. II, **8**, 345 (**18**, 435), pl. 95.
— **Fabre.** 23 Ag. 1872. II, **3**, 377 (**12**, 277).
— **Kost.** 14 N. 1881. II, **12**, 1011 (**27**, 61), pl. 273.
— **Stampa.** 31 D. 1862. (**3**, 340.)*
— electric. **Faucher.** 22 Jl. 1876. II, **7**, 367 (**17**, 319), pl. 91.
electric. **Engström.** 25 Mr. 1878. II, **9**, 154 (**20**, 9), pl. 39.

BROMIDE solution evaporating. **Conti.** 22 My. 1871. II, **2**, 140 (**11**, 62). Ad. **2**, 416 (**11**, 338); **3**, 73 (**11**, 473)—Ex. **5**, 331 (**14**, 440); **8**, 388 (**18**, 478); **11**, 513 (**24**, 114).

BRONZE, malleable. **Létrange.** 10 Ag. 1881. II, **12**, 737 (**26**, 287), pl. 192.
— rendering. **Dronier.** 31 D. 1878. II, **9**, 837 (**21**, 192).
manufacture. **Vivian.** 30 N. 1881. II, **12**, 1054 (**27**, 104.)
white. **Chardon.** 20 Je. 1881. II, **12**, 548 (**26**, 98).

BRONZING. **Bottger.** 23 Ag. 1878. II, **9**, 523 (**20**, 378).

BROOM. **Bocquin e Routin.** 7 O. 1872. II, **3**, 457 (**12**, 357), pl. 110.
machine. **de Mont et Gane.** 5 Mr. 1877. II, **8**, 98 (**18**, 188), pls. 25, 26.
manufacture. **Duggan.** 31 Jl. 1877. II, **8**, 447 (**19**, 37), pl. 116.
— **Giacomini.** 17 N. 1869. I, **6**, 415 (**9**, 431), pl. 137.

BROOM brake. **Percivale.** 20 D. 1873. II, **4**, 599 (**14**, 79), pl. 167.
— **Percivale.** 29 Jl. 1875. II, **6**, 400 (**16**, 168).
braking and bleaching. **Percivale.** 30 Je. 1874. II, **5**, 330 (**14**, 439), pl. 76—Ex. **7**, 333 (**17**, 285).
fiber extracting. **Beltrami.** 30 S. 1857. (**1**, 488.)* (*Sardinia.*)
— **Doll.** 22 Jl. 1880. II, **11**, 505 (**24**, 106).
fiber washing. **Falabrini.** 31 Mr. 1857. (**1**, 409.)* (*Sardinia.*)
macerating. **Bidischini dall' Oglio e Meotti.** 15 F. 1880. II, **11**, 62 (**23**, 163).
mat, cordage, and fabric. **Mannini.** 12 Ap. 1873. II, **4**, 167 (**13**, 147)—Ex. **5**, 171 (**14**, 280).
treating. **Percivale.** 17 Ja. 1874. II, **5**, 13 (**14**, 122).
— with mineral waters. **Vecchietti.** 12 Ap. 1873. II, **4**, 166 (**13**, 146)—Ex. **5**, 145 (**14**, 254).

BRUSH. **Bocquin e Routin.** 7 O. 1872. II, **3**, 457 (**12**, 557), pl. 110.
Fleming et Cie. 23 F. 1881. II, **12**, 100 (**25**, 150), pl. 24. Ad. **12**, 382 (**25**, 432), pl. 94.
Piacenza. 31 D. 1859. (**2**, 296.)* (*Sardinia.*)
cleaner. **Turletti.** 16 N. 1878. II, **9**, 701 (**21**, 56), pl. 210.
cutter. **Sanner.** 7 My. 1875. II, **6**, 227 (**15**, 495), pl. 46.
machine. **Covert.** 12 Mr. 1873. II, **4**, 115 (**13**, 95), pl. 33.
— **Fox.** 19 Ap. 1872. II, **3**, 158 (**12**, 58), pl. 47.
— **de Mont et Gane.** 5 Mr. 1879. II, **8**, 98 (**18**, 188), pl. 25, 26.
manufacture. **Duggan.** 31 Jl. 1877. II, **8**, 447 (**19**, 37), pl. 116.
— **Fox.** 14 Je. 1872. II, **3**, 240 (**12**, 140), pl. 66.

BRUSH manufacture—continued.
— **Giacomini.** 17 N. 1869. I, **6**, 415 (**9**, 431), pl. 137.
— **Giacomini.** 29 Jl. 1872. II, **3**, 336 (**12**, 236), pl. 85.
— from palm-fibers. **Werner.** 2 My. 1868. I, **5**, 105 (**8**, 175).
— paint. **Wright.** 14 My. 1881. II, **12**, 418 (**25**, 468), pl. 100.
tooth. **Miller.** 20 Ap. 1880. II, **11**, 225 (**23**, 326), pl. 64.
BUCKET. **Domercq.** 15 Mr. 1876. II, **7**, 114 (**17**, 66), pl. 27.
BUCKLE. *See also* Harness.
Ghidiglia et Turletti. 31 D. 1856. (**1**, 299.)* (*Sardinia.*)
Gori. 30 N. 1874. II, **5**, 585 (**15**, 194), pl. 140.
Pansoya. 30 Je. 1862. (**3**, 271.)
Ridoli. 10 Ag. 1881. II, **12**, 739 (**26**, 289), pl. 194.
Schultz. 24 F. 1880. II, **11**, 94 (**23**, 195), pl. 34.
BUFFER. *See* Car, Railway, Railway collision.
BUGLE. **Paoli.** 8 Je. 1867. I, **4**, 186 (**7**, 326), pl. 50.
Santucci. 23 Ap. 1880. II, **11**, 257 (**23**, 358), t. e.
Santucci. 23 Ap. 1880. II, **11**, 258 (**23**, 359), t. e.
BUILDING, acoustic arrangement. **Engert.** 13 Jl. 1880. II, **11**, 481 (**24**, 82).
agricultural. **Hesse.** 25 Ap. 1878. II, **9**, 238 (**20**, 93), pl. 60.
block molding. **Barbier.** 14 Ag. 1876. II, **7**, 403 (**17**, 355)—Ex. **10**, 624 (**22**, 324).
block working machine. **Schmidt.** 24 F. 1880. II, **11**, 97 (**23**, 198), pl. 37.
construction. **Chadwick.** 12 Mr. 1872. II, **3**, 91 (**11**, 491), pl. 20.
— **Hall.** 13 Jl. 1872. II, **3**, 309 (**12**, 209), pl. 78.
demolishing machine. **de Benedectis.** 9 Mr. 1872. II, **3**, 62 (**11**, 462), pl. 18.
floodway. **Morrell.** 7 Ag. 1875. II, **6**, 411 (**16**, 179), pl. 96.
iron. **Friedmann.** 20 N. 1876. II, **7**, 550 (**18**, 3), pl. 144.
materials. **Fontana.** 13 Ag. 1875. II, **6**, 428 (**16**, 196).
— **Lesueur.** 30 S. 1861. (**3**, 122.)*
— **Scotti e Cababi di S. Catterina.** 31 D. 1857. (**2**, 6). Ad. (**1**, 31).* (*Sardinia.*)
— from blast-furnace slag. **Fabre.** 12 Mr. 1873. II, **4**, 119 (**13**, 89).
— kiln. **Cerrano.** 23 Mr. 1870. II, **1**, 108 (**10**, 108), pl. 23.
— manufacture. **Buckwell.** 26 D. 1870. II, **1**, 408 (**10**, 408)—Ex. **3**, 132 (**12**, 32).
— — **Laporiti.** 30 S. 1858. (**2**, 122.)* (*Sardinia.*)
— terra cotta. **Smalwood.** 30 S. 1858. (**2**, 128.)* (*Sardinia.*)
metallic. **Tilmanns.** 10 Ag. 1877. II, **8**, 465 (**19**, 55), pl. 121—Ex. **9**, 623 (**20**, 476).
portable. **Mazzocchi e Repossi.** 6 Ap. 1875. II, **6**, 162 (**15**, 430), pl. 31.
raising and lowering. **Clark.** 19 Ap. 1873. II, **4**, 187 (**13**, 167), pls. 50, 51.
temporary. **Tollet.** 16 F. 1875. II, **6**, 68 (**15**, 336), pl. 14.
BULLRUSH FIBER, extracting. **Baldi.** 29 S. 1868. I, **5**, 340 (**8**, 410).
BUNG. **de Beaurepaire de Louvagny.** 17 My. 1875. II, **6**, 248 (**16**, 16), pl. 50.
Luswergh. 3 Je. 1881. II, **12**, 493 (**26**, 43), pl. 123.
BUOY. **Balduino.** 30 Je. 1856. (**1**, 219.) Ad. (**1**, 36).* (*Sardinia.*)
Zaffarini. 3 Je. 1876. II, **7**, 265 (**17**, 217), pl. 63.
for storing valuables aboard ship. **Buisson.** 22 Ja. 1867. I, **4**, 33 (**7**, 72), pl. 3.
BURGLAR-ALARM. **Basch.** 27 N. 1877. I, **8**, 671 (**19**, 261), pl. 178.
Fusi. 29 N. 1875. II, **6**, 620 (**16**, 388), pl. 153.
Giorda. 22 O. 1872. II, **3**, 480 (**12**, 380), pl. 116. Ad. **4**, 334 (**13**, 314), pl. 89.
Lanzille. 15 O. 1873. II, **4**, 507 (**13**, 487), pl. 141. Ad. **5**, 36 (**14**, 145), pl. 5.
Lemke. 30 D. 1878. II, **9**, 800 (**21**, 155), pl. 240. Ad. **10**, 136 (**21**, 336), pl. 46.
Mora 25 Ag. 1870. II, **1**, 329 (**10**, 329), pl. 84.
Massarolo fratelli. 30 N. 1877. II, **8**, 688 (**19**, 278), pl. 181.
Timmermann. 20 F. 1880. II, **11**, 109 (**23**, 210), pl. 38.
Triccio. 20 D. 1873. II, **4**, 598 (**14**, 78), pl. 165—Ex. **6**, 5 (**15**, 273).
Watkins. 31 Ag. 1876, II, **7**, 436 (**17**, 388), pls. 108, 109.
electro-magnetic. **Varino.** 22 Jl. 1867. I, **4**, 238 (**7**, 378).

BURNER. *See also* Electric light.
Douglass. 25 Mr. 1881. II. **12**, 222 (**25**, 272), pl. 54.
Harrison. 27 S. 1879. II, **10**, 621 (**22**, 321), pl. 170.
Lewis. 24 D. 1881. II, **12**, 1150 (**27**, 200), pl. 312.
Monnier. 22 My. 1866. I, **3**, 121 (**6**, 447), pl. 39.
Peracchio. 31 Mr. 1861. (**3**, 3.)*
da Silva. 31 D. 1862. (**3**, 380.)*
Surdi. 27 Ja. 1882. II, **13**, 48 (**27**, 320), pl. 10.
alcaline hydrocarbon. **Gay.** 30 S. 1856. (**1**, 223.)* (*Sardinia.*)
furnace. **Buxbaum.** 21 Ap. 1881. II, **12**, 342 (**25**, 392), pl. 80.
gas. **Andry.** 31 D. 1855. (**1**, 99.)* (*Sardinia.*)
— **de Beaufort.** 30 Je. 1862. (**3**, 294.)*
— **Broenner.** 6 F. 1866. I, **3**, 23 (**6**, 349). Ad. **3**, 92 (**6**, 418), pl. 30; **3**, 249 (**7**, 75), pl. 69.
— **Dubourg.** 15 My. 1864. I, **1**, 259 (**5**, 195), pl. 23.
— **Dupas.** 30 Mr. 1871. II, 2, 83 (**11**, 5), pl. 13.
— **Egidi.** 17 Mr. 1881. II, **12**, 201 (**25**, 251), pl. 43.
— **Fougerat.** 9 O. 1873. II, **4**, 484 (**13**, 464), pl. 135.
— **Franzini.** 26 Jl. 1879. II, **10**, 495 (**22**, 192), pl. 132.
— **Gnudi.** 2 S. 1868. I, **5**, 319 (**8**, 389).
— **König, Mayer e Boehm.** 18 N. 1879. II, **10**, 768 (**22**, 468), pl. 210.
— **Liotard.** 15 S. 1873. II, **4**, 451 (**13**, 431), pl. 124.
— **Merryweather.** 15 S. 1876. II, **7**, 444 (**17**, 396), pl. 111. Ad. **7**, 531 (**17**, 484), pl. 133; **8**, 17 (**18**, 107), pl. 4.
— **Meurlin.** 19 S. 1878. II, **9**, 582 (**20**, 437), pl. 180.
— **Mocquard.** 22 My. 1866. I, **3**, 133 (**6**, 459), pl. 39—Ex. **6**, 359 (**9**, 347).
— **Monier.** 31 D. 1858. (**2**, 205.)* (*Sardinia.*)
— **Nobel.** 25 Mr. 1879. II, **10**, 156 (**21**, 356), pl. 48.
— **Perrin.** 16 N. 1878. II, **9**, 697 (**21**, 52), pl. 210.
— **Punzo.** 9 Mr. 1872. II, **3**, 58 (**11**, 458), pl. 16. Ad. **3**, 170 (**12**, 70)—Ex. **4**, 76 (**13**, 56).
— **Ravanelli.** 4 Jl. 1878. II, **9**. 418 (**20**, 273), pl. 123.
— **Rey de Bellonnet.** 3 Mr. 1866. I, **3**, 45 (**6**, 371), pl. 13.
— **Russo.** 31 Mr. 1863. (**3**, 442.)* Ad. (**1**, 125).
— **Scarselli e Pollastrini.** 31 Jl. 1880. II, **11**, 520 (**24**, 121), pl. 144.
— **Schwarz.** 6 Jl. 1880. II, **11**, 458 (**24**, 59), pl. 134.
— **Schwendi.** 27 O. 1873. II, **4**, 527 (**14**, 70), pl. 146.
— **Siemens.** 21 O. 1880. II, **11**, 733 (**24**, 334), pl. 211.
— **Waschke.** 12 D. 1879. II, **10**, 816 (**23**, 16), pl. 230.
— furnace. **Zambelli.** 30 Je. 1873. II, **4**, 307 (**13**, 287), pl. 74.
— generating. **Mayrargues, Mayrargues e Dal Medico.** 20 D. 1879. II, **10**, 844 (**23**, 44), pl. 232. Ad. **11**, 355 (**23**, 456), pl. 99.
— pressure regulator. **Longin e Souviac.** 22 F. 1879. II, **10**, 85 (**21**, 285), pl. 22.
lamp. **Bosquis.** 15 My. 1867. I, **4**, 160 (**7**, 300), pl. 45. Ad. **5**. 81 (**8**, 151), pl. 20.
— **Brouardel.** 20 F. 1880. II, **11**, 88 (**23**, 189), pl. 33.
— **Demichelis.** 7 O. 1865. I, **2**, 268 (**6**, 252), pl. 68.
— **Demichelis.** 31 O. 1867. I, **4**, 353 (**7**, 494), pl. 98.
— **Dubosc.** 14 Ap. 1864. I, **1**, 126 (**5**, 62), pl. 14.
— **Fox.** 28 Ag. 1872. II, **3**, 390 (**12**, 290), pl. 96.
— **Gnudi.** 30 Mr. 1875. II, **6**, 152 (**15**, 420), pl. 29.
— **Piard.** 30 S. 1858. (**2**, 155.)* (*Sardinia.*)
— **Prada.** 31 My. 1878. II, **9**, 345 (**20**, 200), pl. 94.
— **Vedovi.** 31 Mr. 1862. (**3**, 213.)*
— heavy oils. **Pochet.** 30 S. 1856. (**1**, 200.)*—Ex. I, **1**, 392 (**5**, 329). (*Sardinia.*)
regulator. **Janky e Rimanòczy.** 27 Ap. 1881. II, **12**, 367 (**25**, 417), pl. 84.
— gas. **Giroud.** 28 Mr. 1870. II, **1**, 129 (**10**, 129), pl. 29. Ad. **2**, 340 (**11**, 262), pl. 73; **3**, 143 (**12**, 43), pl. 37—Ex. **3**, 144 (**12**, 44). Ad. **3**, 375 (**12**, 275), pl. 96—Ex. **4**, 185 (**13**, 165).
— — **Meurlin e Wilden.** 27 Ja. 1882. II, **13**, 58 (**27**, 330), pl. 25.
BUTTER, artificial. **Chierichetti.** 18 Ap. 1877. II, **8**, 212 (18, 302), pl. 56.
— **Forno.** 31 D. 1880. II, **11**, 904 (**25**, 5).
— **Galli.** 7 Ag. 1875. II, **6**, 405 (**16**, 173).
— **Migone e Comp.** 28 O. 1875. II, **6**, 569 (**16**, 337)—Ex. **12**, 1088 (**27**, 138).

BUTTER—continued.
machine. **Gauthiot et Chollet.** 7 F. 1877. II, **8**, 56 (**18**, 146), pl. 16.
washing machine. **Molteni.** 22 Je. 1870. II. **1**, 260 (**10**, 260), pl. 66.
BUTTON. *See also* Bone, Electric, Horn, India-rubber, Ivory, Opal, Pottery.
Alekan. 2 My. 1868. I, **5**, 110 (**8**, 180), pl. 26.
Alekan fratelli. 31 O. 1873. II, **4**, 535 (**14**, 15), pl. 142.
Baumann. 31 Mr. 1862. (**3**, 217.)*
Burtey. 30 N. 1877. II, **8**, 690 (**19**, 280), pl. 181.
Gengembre. 2 Ag. 1865. I, **2**, 214 (**6**, 198), pl. 57.
Haefelin. 28 F. 1880. II, **11**, 114 (**23**, 215), pl. 39.
Haefelin. 21 D. 1880. II, **11**, 864 (**24**, 465), pl. 251.
MacMillan. 8 F. 1878. II, **9**, 59 (**19**, 414), pl. 17.
MacMillan. 10 Ap. 1879. II, **10**, 214 (**21**, 414), pl. 62.
Neiff et Comp. 19 S. 1878. II, **9**, 576 (**20**, 431), pl. 176.
Prentice. 31 My. 1881. II, **12**, 484 (**26**, 34), pl. 122.
Schloss. 3 S. 1872. II, **3**, 402 (**12**, 302), pl. 103.
artificial horn. **Romagnoli.** 30 S. 1862. (**3**, 344.)*
composition. **Hess.** 9 N. 1878. II, **9**, 684 (**21**, 39), pl. 209.
fastening. **Binda.** 5 D. 1867. I, **4**, 395 (**8**, 36).
— **Gras.** 20 F. 1874. II, **5**, 60 (**14**, 169), pl. 10.
— tool. **Prentice.** 31 My. 1881. II, **12**, 483 (**26**, 30), pl. 121.
machine metal. **Trippa.** 24 D. 1866. I, **3**, 312 (**7**, 138), pl. 88.
manufacture. **Dinklage et Franze.** 6 Jl. 1877. II, **8**, 380 (**18**, 470), pl. 104. Ad. **13**, 312 (**28**, 84), pl. 85.
— metal. **Trippa.** 26 Mr. 1867. I, **4**, 84 (**7**, 224)—Ex. **5**, 130 (**8**, 200).
— horn and india-rubber. **Lambermont.** 26 Jl. 1879. II, **10**, 501 (**22**, 201), pl. 144.
pottery, manufacture. **Bapterosses.** 27 N. 1871. II, **2**, 425 (**11**, 347), pl. 89.
— **Bapterosses.** 16 Jl. 1872. II, **3**, 320 (**12**, 220), pl. 82—Ex. **9**, 571 (**20**, 426).
screw. **Acerbi.** 20 D. 1869. I, **6**, 465 (**9**, 481).
shank. **Varoli.** 20 Ap. 1881. II, **12**, 331 (**25**, 381).
— machine. **Binda.** 30 Je. 1861. (**3**, 88.)*
shirt. **Lattes frères.** 26 Mr. 1880. II, **11**, 175 (**23**, 276), pl. 53.
stamping. **Haefelin.** 21 D. 1880. II, **11**, 885 (**24**, 486), pl. 255.
— horn. **Lertora.** 16 Ap. 1869. I, **6**, 154 (**9**, 170), pl, 47.
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— **Ponzani.** 14 My. 1874. II, **5**, 223 (**14**, 332), pl. 49.
— **Ravizza.** 30 Je. 1871. II, **2**, 183 (**11**, 105), pl. 41. Ad. **4**, 96 (**13**, 76), pl. 27—Ex. **7**, 580 (**18**, 33).
— **Rizzoli.** 28 N. 1873. II, **4**, 569 (**14**, 49), pl. 159.
— **Saunier.** 11 D. 1868. I, **5**, 401 (**8**, 472). Ad. II, **4**, 581 (**14**, 61), pl. 161.
— **Zecca.** 20 My. 1871. II, **2**, 127 (**11**, 49), pl. 28.
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Pellegrino. 11 My. 1881. II, **12**, 402 (**25**, 452), pl. 99.
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Rider. 30 Mr. 1877. II, **8**, 157 (**18**, 247), pl. 46.
Rigamonti. 6 S. 1880. II, **11**, 613 (**24**, 214), pl. 175.
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— **Pretat.** 30 N. 1878. II, **9**, 739 (**21**, 94), pl. 222.
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— **Royan.** 20 Ap. 1878. II, **9**, 210 (**20**, 65), pl. 53.
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— **Bastié.** 30 S. 1874. II, **5**, 469 (**15**, 78).
— **Cambacérès.** 31 Mr. 1861. (**3**, 2.)*
— **Dalla Pace.** 30 Je. 1861. (**3**, 67.)*—Ex. I, **1**, 458 (**5**, 395).
— **Gemmi.** 30 Je. 1858. (**2**, 95.)* (*Sardinia.*)
— **Joly-Firmin.** 28 Ja. 1881. II, **12**, 28 (**25**, 78), pl. 5.
— **Mège.** 31 D. 1863. (**4**, 128.)*—Ex. I, **1**, 214 (**5**, 150); **2**, 288 (**6**, 272).
— **de Milly.** 7 Jl. 1866. I, **3**, 173 (**6**, 499)—Ex. **5**, 132 (**8**, 202); II, **2**, 409 (**11**, 331).
— **Ravizza.** 5 Ag. 1853. 56.* (*Sardinia.*)
— **Royan.** 6 N. 1880. II, **11**, 788 (**24**, 389), pl. 228.
— **Savorani fratelli.** 12 O. 1881. II, **12**, 890 (**26**, 440), pl. 238. Ad. **13**, 351 (**28**, 123), pl. 93.
— **Tacchi e Ferrari.** 6 Jl. 1880. II, **11**, 457 (**24**, 58), pl. 134.
— **Tacchi e Ferrari.** 31 D. 1881. II, **12**, 1209 (**27**, 159), pls. 338, 339.
— **Tronchon.** 20 D. 1879. II, **10**, 837 (**23**, 37), pl. 232.
— **Zanotti e Comp.** 25 S. 1880. II, **11**, 656 (**24**, 257), pl. 190.
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— — **Reali ed al.** 19 Je. 1861—Ex. I, **6**, 234 (**9**, 250).
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Engelson. 24 S. 1881. II, **12**, 830 (**26**, 380), pl. 218.
Lechmann. 10 My. 1880. II, **11**, 296 (**23**, 397), pl. 84—Ex. **12**, 640 (**26**, 190).
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CANTEEN. **Baldi.** 25 Ag. 1870. II, **1**, 326 (**10**, 326), pl. 83.
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Pusterla. 16 Jl. 1875. II, **6**, 370 (**16**, 138).
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Balzamo. 12 Jl. 1873. II, **4**, 343 (**13**, 323), pl. 92.
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Camerano. 14 F. 1870. II, **1**, 65 (**10**, 65), pl. 11.
Corradi. 24 Jl. 1872. II, **3**, 328 (**12**, 228), pl. 84—Ex. **4**, 521 (**14**, 1); **5**, 457 (**15**, 66).
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Harfield. 12 Mr. 1866. I, **3**, 66 (**6**, 392), pl. 21.
Harfield. 12 Mr. 1866. I, **3**, 67 (**6**, 393), pl. 23.
Puggi. 19 Je. 1872. II, **3**, 258 (**12**, 158), pl. 71.
Tixi e Rizzolio. 22 Mr. 1871. II, **2**, 74 (**10**, 496), pl. 13.
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manufacture. **Taetz.** 27 F. 1875. II, **6**, 88 (**15**, 356)—Ex. **7**, 170 (**17**, 122).
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Borgatta. 20 Je. 1873. II, **4**, 287 (**13**, 267), pl. 76—Ex. **5**, 342 (**14**, 451).
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Dathis. 12 S. 1874. II, **5**, 447 (**15**, 56), pl. 106.
Dathis. 30 N. 1876. II, **7**, 567 (**18**, 20), pl. 146.
Dathis. 6 Ag. 1878. II, **9**, 493 (**20**, 348), pl. 151.
Delettrez. 6 Jl. 1877. II, **8**, 382 (**18**, 472), pl. 105.
Estrade. 12 S. 1881. II, **12**, 813 (**26**, 363), pl. 215.
Larmanjat. 26 N. 1868. I, **6**, 469 (**9**, 485), pl. 151.
Mann. 23 Ap. 1873. II, **4**, 192 (**13**, 172), pl. 53.
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Ripert. 26 D. 1877. II, **8**, 736 (**19**, 326), pl. 197.
Rowan. 9 Mr. 1882. II, **13**, 177 (**27**, 449), pl. 51.
Società anonima della ferrovia da Torino a Cuneo. 30 Je. 1856. (**1**, 185.)* *Sardinia.*
Tucker. 10 D. 1864. I, **1**, 518 (**5**, 455), pl. 83.
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axle. **Klose.** 12 Ja. 1880. II, **11**, 4 (**23**, 105), pls. 2, 3—Ex. **12**, 85 (**25**, 135); **13**, 237 (**28**, 9).
— **MacConnell.** 31 Mr. 1856. (**1**, 143.)* (*Sardinia.*)
— box. **Pomme, Bayard et Armand.** 31 Mr. 1856. (**1**, 137.)* (*Sardinia.*)—Ex. I, **1**, 276 (**5**, 212).
— — **Pomme de Mirimonde.** 31 Mr. 1860. (**2**, 366.)* (*Sardinia.*)—Ex. I, **1**, 275 (**5**, 211).
— cooling. **Proust.** 30 Mr. 1858. (**2**, 30.)* (*Sardinia.*)
— lubricating. **Curtis.** 20 Je. 1857. (**1**, 400.)* (*Sardinia.*)
— — **Dietz.** 30 Je. 1860. (**2**, 360.)* (*Sardinia.*)—Ex. I, **1**, 146 (**5**, 82).
— — **Icardi.** 30 S. 1857. (**1**, 477.)*—Ex. (**1**, 24). (*Sardinia.*)
— — **Jest.** 30 S. 1863. (**4**, 96.)*
— — **Mathieu-Chauffour et Cie.** 30 S. 1858. (**2**, 140.)* (*Sardinia.*)
— — **Olivier.** 31 Mr. 1864. (**4**, 193.)*
— — **Pacthod et Maneglia.** 30 S. 1856. (**1**, 248.)* (*Sardinia.*)
— — **Roy.** 30 S. 1858. (**2**, 139.)* (*Sardinia.*)
— — **Vallod et Cie.** 30 S. 1858. (**2**, 163.)* (*Sardinia.*)
— — **Viteau.** 30 S. 1860. (**2**, 418.)* (*Sardinia.*)
— pressure regulator. **Ehrhardt.** 15 N. 1866. I, **3**, 250 (**7**, 76), pl. 73.
— self-adjusting. **Caillet.** 30 Je. 1861. (**3**, 78)*—Ex. I, **1**, 221 (**5**, 157)—Ex. **4**, 202 (**7**, 342).
brake. **Bastianello.** 23 Je. 1879. II, **10**, 402 (**32**, 102), pl. 117.
— **Bécade, Lacroix et Léonard.** 31 D. 1857. (**2**, 8.)* (*Sardinia.*)
— **Becker.** 25 My. 1878. II, **9**, 324 (**20**, 179), pls. 90, 91.
— **Berardo.** 19 Jl. 1865. I, **2**, 193 (**6**, 117), pl. 51.
— **Berghausen.** 17 N. 1875. II, **6**, 598 (**16**, 366), pl. 147.
— **Biressi.** 22 Mr. 1871. II, **2**, 75 (**10**, 497), pl. 13.
— **Brandt.** 26 F. 1874. II, **5**, 66 (**14**, 175), pl. 15,

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— **Castellvi.** 31 Mr. 1860. (**2**, 352.)* Ad. (**1**, 85.) (**1**, 106) (*Sardinia.*)
— **Chatelain.** 31 D. 1869. (**1**, 318.)* (*Sardinia.*)
— **Cianferoni e Scheggi.** II, **7**, 482 (**17**, 434), pls. 121, 122.
— **Clément.** 30 Je. 1860. (**2**, 387.)* (*Sardinia.*)
— **Conte.** 3 Mr. 1865. I, **2**, 63 (**6**, 47), pl. 15. Ad. **3**, 177 (**7**, 3), pl. 56.
— **Costantini.** 4 Jl. 1878. II, **9**, 416 (**20**, 271), pl. 122.
— **Didier.** 31 Mr. 1856. (**1**, 148.)* (*Sardinia.*)
— **Fabre e Constant figlio.** 29 My. 1875. II, **6**, 265 (**16**, 33), pl. 57.
— **Gianoli, Piceni e Donna.** 4 S. 1874. II, **5**, 438 (**15**, 47), pl. 103. Ad. **6**, 164 (**15**, 432), pl. 34; **6**, 466 (**16**, 234), pl. 108—Ex. **11**, 710 (**24**, 311).
— **Glaser.** 9 O. 1880. II, **11**, 698 (**24**, 299), pl. 203—Ex. **12**, 1164 (**27**, 214).
— **Guggenbuhler.** 30 S. 1863. (**4**, 56.)*
— **Hardy.** 22 Je. 1881. II, **12**, 555 (**26**, 105), pl. 139. Ad. **12**, 1108 (**27**, 158), pl. 299.
— **Heberlein.** 24 S. 1872. II, **3**, 436 (**12**, 336), pl. 105.
— **Heberlein e Bandel.** 5 Mr. 1880. II, **11**, 124 (**23**, 255), pl. 44.
— **Higgin.** 31 Mr. 1861. (**3**, 26.)*
— **Kuntze, Lischke e Wilke.** 30 S. 1876. II, **7**, 471 (**17**, 423), pl. 70.
— **Lanzerini e Mons.** 12 O. 1881. II, **12**, 889 (**26**, 439), pl. 237.
— **Le Belleguic.** 20 Ag. 1874. II, **5**, 412 (**15**, 21), pl. 96. Ad. **6**, 303 (**16**, 71), pl. 67—Ex. **8**, 477 (**19**, 67).
— **Lecus.** 30 Je. 1860. (**2**, 393.)* (*Sardinia.*)
— **Lippmann.** 20 Ap. 1881. II, **12**, 339 (**25**, 389), pl. 77.
— **Molinos.** 30 S. 1862. (**3**, 306.)*
— **Naylor.** 7 Jl. 1871. II, **2**, 206 (**11**, 128), pl. 47.
— **Parigot.** 3 N. 1864. I, **1**, 486 (**5**, 423), pl. 78.
— **Pecora.** 30 Je. 1858. (**2**, 87.)* (*Sardinia.*)
— **Piret.** 30 S. 1869. I, **6**, 366 (**9**, 382), pl. 126.
— **Pollavini.** 31 Mr. 1862. (**3**, 205.)*
— **Riatti.** 28 Ja. 1874. II, **5**, 31 (**14**, 140), pl. 3—Ex. **6**, 15 (**15**, 283).
— **Sabatier e Pouget.** 18 Jl. 1878. II, **9**, 457 (**20**, 312), pl. 136. Ad. **10**, 484 (**22**, 184), pl. 135.
— **Shaw.** 6 F. 1866. I, **3**, 26 (**6**, 352).
— **Speidel.** 15 N. 1877. II, **8**, 667 (**19**, 257), pl. 174—Ex. **9**, 825 (**21**, 180).
— **Spinelli.** 30 N. 1878. II, **9**, 746 (**21**, 101), pl. 225.
— **Stilmant et Allain.** 31 Mr. 1861. (**2**, 490.)*—Ex. I, **1**, 236 (**5**, 172); **4**, 99 (**7**, 239).
— **Taverna.** 30 Mr. 1860. (**2**, 435.)* (*Sardinia.*)
— **Toselli.** 30 S. 1859. (**2**, 286.)* (*Sardinia.*)
— **Velu, etc.** 29 N. 1865. I, **2**, 320 (**6**, 304), pls. 97, 98—Ex. **3**, 275 (**7**, 101).
— **Veron et Edeline.** 25 Mr. 1878. II, **9**, 150 (**20**, 5), pl. 39.
— **Zoia.** 7 F. 1879. II, **10**, 50 (**21**, 250), pl. 15.
— and starter. **Cohrs.** 25 F. 1873. II, **4**, 94 (**13**, 74), pl. 24.
— — **Lemaire-Douchy.** 16 D. 1878. II, **9**, 768 (**21**, 123), pl. 235.
— — **Massano.** 15 F. 1880. II, **11**, 63 (**23**, 164), pl. 18. Ad. II, **11**, 695 (**24**, 296), pl. 202—Ex. **13**, 310 (**28**, 82).
— — **Pean.** 11 Jl. 1867. I, **4**, 216 (**7**, 356), pl. 71.
— automatic. **Dorré, etc.** 26 N. 1867. I, **4**, 384 (**8**, 25), pl. 116.
— chain. **Pansa.** 31 Mr. 1856. (**1**, 157.)* (*Sardinia.*)
— electric. **Achard.** 28 Ag. 1873. II, **4**, 418 (**13**, 398), pl. 111. Ad. **5**, 571 (**15**, 180), pl. 135.
— — **Stanford e Milligan.** 20 My. 1880. II, **11**, 326 (**23**, 427), pl. 93.
— electro-magnetic. **Garan.** 30 D. 1864. I, **1**, 531 (**5**, 468), pl. 85.
— shoe. **Grivel.** 31 Mr. 1856. (**2**, 486.)*
— — **Lampieri e Salomone.** 31 Mr. 1857. (**1**, 341.)* (*Sardinia.*)
buffer. **Bluck.** 24 My. 1876. II, **7**, 259 (**17**, 211), pl. 59.
— **Grondona.** 25 My. 1878. II, **9**, 333 (**20**, 188), pl. 92.
— **Grondona.** 12 Jl. 1879. II, **10**, 465 (**22**, 165), pl. 130.
— **Ibbotson.** 29 Ja. 1877. II, **8**, 30 (**18**, 120), pl. 7—Ex. **10**, 810 (**23**, 10).
— **Myers.** 30 S. 1856. (**1**, 220.)*

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cattle. **Clarke.** 26 Je. 1880. II, **11**, 421 (**24**, 22), pl. 127.
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coupling. **Becker.** 3 F. 1875. II, **6**, 51 (**15**, 319), pl. 11.
— **Erdmann e Ruperti.** 23 Je. 1881. II, **12**, 565 (**26**, 115), pl. 140.
— **Everett.** 27 My. 1874. II, **5**, 252 (**14**, 361), pl. 55.
— **Fairlie.** 13 Mr. 1871. II, **2**, 64 (**10**, 486), pl. 10.
— **Green.** 6 Mr. 1874. II, **5**, 79 (**14**, 188), pl. 17.
— **Grondona.** 12 Jl. 1879. II, **10**, 465 (**22**, 165), pl. 130.
— **Hunt e Jones.** 10 Ag. 1881. II, **12**, 731 (**26**, 281), pl. 187.
— **Ibbotson.** 29 Ja. 1877. II, **8**, 30 (**18**, 120), pl. 7—Ex. **10**, 810 (**23**, 10).
— **Kuntze et Pollack.** 23 Ap. 1878. II, **9**, 221 (**20**, 76), pl. 55.
— **Lemerre et Vu.** 17 S. 1875. II, **6**, 497 (**16**, 265), pl. 122.
— **Locati.** 14 My. 1881. II, **12**, 417 (**25**, 467), pl. 101.
— **Orsini.** 20 O. 1881. II, **12**, 937 (**26**, 487), pl. 248.
— **Peny e Mabille.** 28 Mr. 1879. II, **10**, 174 (**21**, 374), pls. 55, 56.
— **Pick e Lang.** 25 Ap. 1878. II, **9**, 242 (**20**, 97), pls. 61, 62.
— **Puxkandl.** 15 S. 1879. II, **10**, 595 (**22**, 295), pl. 168.
— **Schäffer e Budenberg.** 31 Ja. 1879. II, **10**, 37 (**21**, 237), pl. 9.
— **Schrabetz.** 29 N. 1875. II, **6**, 606 (**16**, 374), pl. 147.
— **Siccardi.** 9 N. 1881. II, **12**, 1006 (**27**, 56), pl. 274.
— **Société anonyme des appareils automatiques pour accrocher et décrocher les wagons de chemins de fer.** 13 Ap. 1882. II, **13**, 316 (**28**, 88), pl. 84.
— **Sürth e Steinhaus.** 7 F. 1876. II, **7**, 63 (**17**, 15), pl. 16.
— **Turnbull.** 1 F. 1869. I, **6**, 32 (**9**, 48), pls. 10, 11.
— **Verlinde.** 18 N. 1879. II, **10**, 748 (**22**, 448), pl. 205.
— **Weissenborn.** 20 S. 1880. II, **11**, 639 (**24**, 240), pl. 186.
cylindric. **Mouline.** 20 Ap. 1880. II, **11**, 220 (**23**, 321), pl. 63.
double-deck. **Krauss.** 24 O. 1879. II, **10**, 701 (**22**, 401), pl. 192.
earth. **Decanville.** 24 My. 1876. II, **7**, 253 (**17**, 205), pl. 59.
freight. **Albertazzi.** 20 N. 1879. II, **10**, 773 (**22**, 473), pl. 212. Ad. **11**, 347 (**23**, 448), pl. 97.
— **Hudson.** 16 S. 1878. II, **9**, 562 (**20**, 417), pl. 171.
— wagon. **Martorelli.** 22 Ap. 1882. II, **13**, 347 (**28**, 119), pl. 93.
gradient. **Baccelli.** 22 Mr. 1876. II, **7**, 123 (**17**, 75), pl. 29.
— **Fell.** 18 Je. 1867. I, **4**, 198 (**7**, 338), pls. 58–62. Ad. **5**, 441 (**9**, 12), pl. 134—Ex. II, **1**, 245 (**10**, 245).
gravity. **Tos.** 31 D. 1857. (**1**, 500.)* (*Sardinia.*)
hand. **Fracasso.** 21 Jl. 1864. I, **1**, 364 (**5**, 301), pl. 67.
— **Natta.** 31 Ag. 1868. I, **5**, 290 (**8**, 360), pl. 84.
lighting. **Brock.** 15 N. 1877. II, **8**, 665 (**19**, 255), pls. 176, 177.
— **Pintsch.** 15 S. 1874. II, **5**, 451 (**15**, 60), pl. 105—Ex. **6**, 539 (**16**, 307); **7**, 167 (**17**, 119).
mounting. **Fairlie.** 13 Mr. 1871. II, **2**, 64 (**10**, 486), pl. 10.
oil. **Warden.** 26 Ja. 1872. II, **3**, 26 (**11**, 426), pl. 7—Ex. **4**, 14 (**12**, 494); **9**, 32 (**19**, 387); **12**, 55 (**25**, 105).
parlor. **Martorelli.** 5 N. 1870. II, **1**, 381 (**10**, 381), pl. 100.
— **Taverna.** Je. 1855. (**1**, 14.)* (*Sardinia.*)
passenger protector. **Maquet.** 29 My. 1875. II, **6**, 266 (**16**, 34), pl. 60.
passenger supporter. **Cacciari.** 12 S. 1865. I, **2**, 233 (**6**, 217), pl. 61.
passenger transferring. **Bruno.** 24 Ap. 1866. I, **3**, 119 (**6**, 445), pl. 38.
platform, freight. **Entz.** 4 Jl. 1878. II, **9**, 412 (**20**, 267), pl. 122.
pneumatic. **Pfau.** 31 D. 1863. (**4**, 127.)*
propelling. **Leveaux.** 11 Ja. 1875. II, **6**, 8 (**15**, 276), pl. 2.
— **Spill.** 15 D. 1874. II, **5**, 613 (**15**, 222), pl. 146—Ex. **6**, 664 (**16**, 432).

CAR, propelling—continued.
— gas engine. **Purssell.** 14 My. 1880. II, **11**, 304 (**23**, 405), pl. 90.
refrigerating. **Grondona e Comp.** 20 Ap. 1881. II, **12**, 338 (**25**, 388), pl. 77.
— **Labatt, Klapp, Nichols e Henry.** 30 Ap. 1877. II, **8**, 241 (**18**, 331), pl. 68.
— **Schreiber.** 26 Jl. 1879. II, **10**, 500 (**22**, 200), pl. 144.
road or railway. **de Canterac.** 15 Mr. 1881. II, **12**, 198 (**25**, 248), pl. 47.
sleeping. **Berkley.** 19 Je. 1871. II, **2**, 174 (**11**, 96), pl. 39—Ex. **3**, 232 (**12**, 132).
— **Clarke.** 21 N. 1881. II, **12**, 1022 (**27**, 72), pl. 279.
— **Desouches.** 23 Je. 1873. II, **4**, 296 (**13**, 276), pl. 81.
— **Lucchesini.** 22 Mr. 1871. II, **2**, 78 (**10**, 500), pl. 15.
— **Martorelli.** 25 Je. 1874. II, **5**, 305 (**14**, 414), pl. 73.
— **Martorelli.** 27 Ag. 1874. II, **5**, 425 (**15**, 34), pl. 99.
— **Payras et Pigeon.** 10 Ap. 1879. II, **10**, 210 (**21**, 410), pl. 62.
— berth. **Compagnia internazionale dei vagoni-letti.** 10 Ap. 1882. II, **13**, 309 (**28**, 81), pl. 82.
spring. **Apollonio.** 31 Mr. 1856. (**1**, 192.)* (*Sardinia.*)
— **Eaton.** 31 Mr. 1857. (**1**, 390.)* (*Sardinia.*)
— **Fox.** 3 F. 1875. II, **6**, 53 (**15**, 321), pl. 13.
— **Howell.** 26 O. 1865. I, **2**, 285 (**6**, 269), pl. 79.
— **Myers.** 30 S. 1856. (**1**, 220.)* (*Sardinia.*)
— **Sparkes.** 24 Ap. 1866. I, **3**, 118 (**6**, 444), pl. 38—Ex. **6**, 145 (**9**, 161).
— **Spencer.** 18 Je. 1854. 86.* (*Sardinia.*)
— **Spencer.** 30 S. 1857. (**1**, 446.)* (*Sardinia.*)
— **Wharton.** 30 S. 1862. (**3**, 315.)*
steam street. **Grantham.** 11 Mr. 1872. II, **3**, 76 (**11**, 476), pl. 22.
street. **Harding.** 22 D. 1875. II, **6**, 662 (**16**, 430), pl. 169.
— **Locati.** 31 D. 1878. II, **9**, 842 (**21**, 197), pl. 246.
— **Mancini.** 15 D. 1874. II, **5**, 616 (**15**, 225), pl. 150.
Morel-Thibaut. 19 S. 1878. II, **9**, 568 (**20**, 423), pl. 174.
— **Stephenson.** 30 S. 1873. II, **4**, 478 (**13**, 458), pls. 125–128.
— **Train.** 30 Je. 1861. (**3**, 27.)*
suspension. **Delessert.** 30 S. 1880. II, **11**, 685 (**24**, 286), pl. 199.
tank. **Cirio.** 31 My. 1881. II, **12**, 465 (**26**, 15), pl. 118.
track laying. **Zanichelli.** 20 N. 1876. II, **7**, 551 (**18**, 4), pl. 137.
traction. **Gründler.** 31 D. 1879. II, **10**, 880 (**23**, 80), pl. 248.
— **Kaufmann.** 18 Ap. 1876. II, **7**, 190 (**17**, 142), pl. 43.
— road. **Agudio.** 30 S. 1856. (**1**, 232.)* (*Sardinia.*)
truck. **Apsey.** 11 Je. 1879. II, **10**, 355 (**22**, 55), pl. 104.
— **Chisholm.** 10 N. 1879. II, **10**, 727 (**22**, 427), pl. 200.
— **Cleminson.** 18 My. 1877. II, **8**, 278 (**18**, 368), pl. 77—Ex. **10**, 424 (**22**, 124).
— **Grondona e Comp.** 13 Ag. 1880. II, **11**, 552 (**24**, 153), pl. 152.
— **Hambruch.** 16 Ja. 1879. II, **10**, 7 (**21**, 207), pl. 1.
— **Klose.** 20 Ja. 1880. II, **11**, 29 (**23**, 130), pl. 11—Ex. **12**, 86 (**25**, 136); **13**, 236 (**28**, 8).
— **Macchi fratelli.** 13 Ag. 1880. II, **11**, 559 (**24**, 160), pl. 155.
— **Società per imprese e costruzioni pubbliche.** 31 D. 1880. II, **11**, 967 (**25**, 8), pl. 260.
— **Speidel.** 17 Ja. 1878. II, **9**, 11 (**19**, 366), pl. 6—Ex. **9**, 824 (**21**, 179).
ventilating. **Grandjean.** 4 Mr. 1870. II, **1**, 79 (**10**, 79), pls. 15, 16.
— **Grandjean.** 14 Jl. 1870. I, **1**, 296 (**10**, 296), pl. 73.
— **Société industrielle suisse.** 10 N. 1876. II, **7**, 546 (**17**, 499), pl. 141.
— **Viehoff e Woss.** 25 Ja. 1873. II, **4**, 37 (**13**, 17), pl. 3.
ventilator. **Capocci e Gambaccini.** 20 Ap. 1872. II, **3**, 172 (**12**, 72), pl. 46.
— **Capocci, Percivale e Gambaccini.** 16 My. 1872. II, **3**, 202 (**12**, 102), pl. 54.
— **Körting.** 29 Jl. 1875. II, **6**, 394 (**16**, 162), pl. 84.
wheel. **Atherton et Tompson.** 21 D. 1877. II, **8**, 746 (**19**, 336), pl. 199.
— **Beattie.** 31 Mr. 1857. (**1**, 362.)* (*Sardinia.*)
— **Garnier e Hessenland.** 18 My. 1872. II, **3**, 208 (**12**, 108), pl. 60.

CAR wheel—continued.
— **Graechen.** 5 N. 1879. II, **10**, 721 (**22**, 421), pl. 197.
— **Kitson.** 31 Ja. 1879. II, **10**, 30 (**21**, 230), pl. 7.
— **Krupp.** 11 D. 1875. II, **6**, 644 (**16**, 412), pl. 156—Ex. **8**, 8 (**18**, 98).
— **Lobdell.** 21 D. 1868. I, **5**, 421 (**8**, 492), pl. 128.
— **Pendred.** 7 Jl. 1871. II, **2**, 203 (**11**, 125), pl. 46.
— **Pirola.** 11 My. 1869. I, **6**, 193 (**9**, 209), pl. 54.
— **Small.** 22 O. 1874. II, **5**, 504 (**15**, 113), pl. 116.
— adherence augmenting. **Merryweather, Merryweather e Jakeman.** 27 Ap. 1876. II, **7**, 206 (**17**, 158), pl. 47.
— gradient. **Chiesa e Rougier.** 10 Ap. 1879. II, **10**, 208 (**21**, 408), pl. 62.
— — **Manzini.** 30 Je. 1862. (**3**, 273.)*
— manufacture. **Baines.** 5 F. 1870. II, **1**, 53 (**10**, 53), pl. 8—Ex. **4**, 35 (**13**, 15).
— mounting. **Bathias.** 30 Je. 1862. (**3**, 272.)*
— protector. **Folacci.** 29 Mr. 1881. II, **12**, 247 (**25**, 297), pl. 60.
— tire and axle manufacture. **Chauffriat.** 30 Je. 1857. (**1**, 423.)* (*Sardinia.*)
— tire manufacture. **Alvino.** 30 Je. 1858. (**2**, 75.)* (*Sardinia.*)
window fastener. **Coulon.** 13 Mr. 1838. I, **5**, 16 (**8**, 86), pl. 5.
— opening and shutting. **Farnworth.** 6 F. 1866. I, **3**, 27 (**6**, 353), pl. 7.
wine. **Société générale de transport de liquides.** 10 Je. 1880. II, **11**, 368 (**23**, 469), pl. 104.

CARBON, artificial. **Harbely.** 30 S. 1857. (**1**, 478.)* (*Sardinia.*)
bisulphide decanting cock. **Deperais.** 31 O. 1877. I, **4**, 355 (**7**, 496), pl. 102.
bisulphide furnace. **Spasciani-Mesmer e Lacuto.** 30 O. 1880. II, **11**, 761 (**24**, 362), pl. 218.
bisulphide manufacture. **Labois.** 20 N. 1879. II, **10**, 780 (**22**, 480), pl. 214.
— apparatus. **Manni.** 17 Jl. 1868. I, **5**, 234 (**8**, 304), pl. 69.
bisulphide purifying apparatus. **Deperais.** 10 Ag. 1868. I, **5**, 266 (**8**, 336), pl. 80.
bisulphide sprinkler. **Offacio.** 31 O. 1873. II, **4**, 531 (**14**, 11), pl. 149.
crystallizing. **Mactear.** 20 Ja. 1880. II, **11**, 25 (**23**, 127).
dioxide apparatus utilizing. **Usigli.** 10 Ag. 1868. I, **5**, 273 (**8**, 243), pl. 82.
dioxide manufacture. **Beins.** 27 O. 1873. II, **4**, 518 (**13**, 498)—Ex. **9**, 802 (**21**, 157).
manufacture, electric light. **Edison.** 9 N. 1881. II, **12**, 997 (**27**, 47).
point. **Maxim.** 6 S. 1880. II, **11**, 623 (**24**, 224), pl. 179.
— preparing. **Maxim.** 3 Mr. 1881. II, **12**, 157 (**25**, 207), pl. 37.

CARBONATE. *See* Alkali, Ammonium, Barium, Lead, Magnesium, Potassium, Potassium sulphocarbonate, Sodium.

CARBONIC oxide apparatus. **Bonnier de La Chapelle.** 22 F. 1866. I, **3**, 40 (**6**, 366), pl. 12.

CARBONIZING, distilling, purifying, mixing, and condensing peat, coal, shale, wood and bones. **Challeton.** 31 D. 1855. (**1**, 132.)* (*Sardinia.*)
furnace. **Bianchi.** 11 Mr. 1882. II, **13**, 186 (**27**, 458), pl. 52.
liguite. **Rossi, Massa e Massetti.** 31 Mr. 1863. (**3**, 419.)*

CARBURETER. **Bricout.** 31 D. 1862. (**3**, 382.)*
Dubois. 9 F. 1874. II, **5**, 49 (**14**, 158), pl. 7.
Jackson. 12 O. 1880. II, **11**, 703 (**24**, 304), pl. 206.
Lascols. 27 Ap. 1878. II, **9**, 249 (**20**, 104), pl. 63.
Launay. 30 S. 1856. (**1**, 264.) Ad. (**1**, 15.)* (*Sardinia.*)
Launay. 30 S. 1857. (**1**, 415.)* (*Sardinia.*)
Peracca. 31 D. 1863. (**4**, 81.)*
Pew, Moran e La Vallée. 31 D. 1879. II, **10**, 867 (**23**, 67), pl. 245.
Ragot. 29 N. 1879. II, **10**, 786 (**22**, 486), pl. 217. Ad. **11**, 85 (**23**, 186), pl. 23.
de Syldorff. 17 My. 1874. II, **5**, 212 (**14**, 321), pl. 45.
Westinghouse. 31 Ja. 1881. II, **12**, 58 (**25**, 108), pl. 17.
Wittamer. 31 Ag. 1881. II, **12**, 803 (**26**, 353), pl. 211.

CARBURETER—continued.
air. **Antoine e Barbarin.** 8 Ap. 1871. II, **2**, 98 (**11**, 20), pl. 17.
— **de Bartolomeis.** 23 Jl. 1868. I, **5**, 252 (**8**, 322), pl. 72. Ad. **5**, 345 (**8**, 625).
— **de Bartolomeis.** 2 S. 1868. I, **5**, 320 (**8**, 390), pl. 88. Ad. **6**, 200 (**9**, 216), pl. 66—Ex. **6**, 310 (**9**, 326). Ad. **6**, 311 (**9**, 327), pl.
— **Dupas e Barbarin.** 30 Mr. 1871. II, **2**, 82 (**11**, 4), pl. 14.
— **Giribon.** 31 D. 1862. (**3**, 381.)*
— **Moussard.** 2 Je. 1870. II, **1**, 222 (**10**, 222), pl. 56.
— **Parody.** 3 S. 1872. II, **3**, 410 (**12**, 301), pl. 102.
— **Robert d'Hurcourt.** 26 My. 1869. I, **6**, 216 (**9**, 232), pl. 71.
— **Schüssler.** 16 Jl. 1875. II, **6**, 364 (**16**, 132), pl. 80.
gas. **Boivin, etc.** 31 Ag. 1868. I, **5**, 297 (**8**, 367), pl. 87.
— **Cascina.** 22 D. 1868. I. **5**, 439 (**9**, 10).
— **Farrenc et Gloesener.** 30 S. 1862. (**3**, 348.)*
— **Gautier.** 29 Ag. 1866. I, **3**, 198 (**7**, 24).
— **Giribon.** 31 D. 1862. (**3**, 384.)*
— **Illy.** 17 Ja. 1874. II, **5**, 17 (**14**, 126).
— **Launay.** 31 Mr. 1860. (**2**, 353.)* (*Sardinia.*)
— **Letta.** 30 Je. 1859. (**2**, 255.)* (*Sardinia.*)
— **Macdonald.** 23 My. 1881. II, **12**, 436 (**25**, 486), pl. 107.
— **Manetti.** 3 Mr. 1865. I, **2**, 61 (**6**, 45), pl. 14.
— **Morpurgo.** 28 F. 1869. I, **6**, 68 (**9**, 24), pl. 15.
— **Pericoli e Comp.** 3 Jl. 1880. II, **11**, 454 (**24**, 55), pls. 132, 133.
— **Perrin.** 30 N. 1878. II, **9**, 749 (**21**, 104), pl. 226.
— **Sirié.** 8 My. 1877. II, **8**, 251 (**18**, 341), pl. 71.
— **de Sylldorff.** 21 Ag. 1876. II, **7**, 411 (**17**, 363), pl. 103.
— **Vacani.** 31 Mr. 1865. I, **2**, 108 (**6**, 92), pl. 26.
— **Weston.** 14 Ag. 1874. II, **5**, 400 (**15**, 9), pl. 91.

CARBURETING. **Subra.** 30 Mr. 1860. (**2**, 326.)* (*Sardinia.*)
clay and porous materials. **Smith.** 25 Jl. 1873. II, **4**, 460 (**13**, 340)—Ex. **10**, 527 (**22**, 227).
compound. **Monari, Sardé, Vinci e Baldi.** 13 Ap. 1881. II, **12**, 319 (**25**, 369).
fuel. **Tardieu.** 31 Mr. 1857. (**1**, 351.)* (*Sardinia.*)
gas. **Schiapparelli.** 30 Je. 1859. (**2**, 247.) Ad. (**1**, 58).* (*Sardinia*)
liquid. **Launay et Dominé de Vernez.** 30 D. 1860. (**2**, 449.)* (*Sardinia.*)

CARD. *See also* Advertising, Photographic, Playing.
business, accounts. **Rouillard.** 16 N. 1878. II, **9**, 700 (**21**, 55), pl. 212.
— box. **Bazetta.** 5 N. 1870. II, **1**, 380 (**10**, 380), pl. 98.
— subscription. **Scala.** 26 N. 1881. II, **12**, 1041 (**27**, 91).
— trimmings. **Steiger e Comp.** 23 O. 1880. II, **11**, 747 (**24**, 348), pl. 213.
Jacquard. **Alzati.** 28 S. 1881. II, **12**, 872 (**26**, 422).
— **Bruschi.** 29 My. 1875. II, **6**, 264 (**16**, 32), pl. 59.
— machine. **Mackenzie.** 17 Ja. 1866. I, **3**, 2 (**6**, 328), pls. 1–3.
— punching machine. **Perancini.** 21 D. 1880. II, **11**, 888 (**24**, 489), pl. 255.
playing. **Chanony.** 11 My. 1872. II, **3**, 192 (**12**, 92), pl. 53.
— **Liberti.** 30 Mr. 1875. II, **6**, 137 (**15**, 405).
— **Masini.** 12 Je. 1865. I, **2**, 160 (**6**, 144).
— advertising. **Pollak e Krasovecz.** 28 S. 1881. II, **12**, 871 (**26**, 421).
— loto. **Louineau.** 31 Ja. 1873. II, **4**, 46 (**13**, 26).
textile. **Decker.** 9 Mr. 1881. II, **12**, 175 (**25**, 225), pl. 41. Ad. **12**, 1149 (**27**, 199), pl. 303.
— **Grün.** 22 O. 1874. II, **5**, 494 (**15**, 103), pl. 106.
— **Klein.** 9 N. 1876. II, **7**, 535 (**17**, 488), pl. 136.
— **Martin.** 8 Ap. 1871. II, **2**, 96 (**11**, 18), pl. 17.
— **Piana.** 3 F. 1875. II, **6**, 48 (**15**, 316), pl. 11.
— **Piana.** 21 Ja. 1882. II, **13**, 45 (**27**, 317).
— **Schmid e Schelling.** 18 N. 1879. II, **10**, 767 (**22**, 467), pl. 207.
— cotton. **Whalley.** 30 Je. 1861. (**3**, 57.)*
— lining. **Schelling.** 18 N. 1879. II, **10**, 771 (**22**, 471), pl. 271.
— manufacture. **Ashworth.** 5 My. 1879. II, **10**, 263 (**21**, 463), pl. 75.
— — **Ashworth.** 5 My. 1879. II, **10**, 266 (**21**, 466), pl. 76.

CARD textile manufacture—continued.
— — **Rossi.** 17 D. 1851. 23.* (*Sardinia.*)
— — **Yonck.** 18 Jl. 1878. II, **9**, 453 (**20**, 308), pl. 132.
— wool. **Grandi.** 31 D. 1856. (**1**, 308.)* (*Sardinia.*)
visiting, photographic. **Corradi.** 4 Jl. 1864. I, **1**, 323 (**5**, 259).

CARDING MACHINE. **Anzini.** 10 Je. 1880. II, **11**, 367 (**23**, 468), pl. 104.
— **Bede e Comp.** 15 D. 1871. II, **2**, 449 (**11**, 371), pl. 94.
— **Brierley.** 30 Je. 1863. (**4**, 53.)*
— **Girrès.** 9 Jl. 1879. II, **10**, 448 (**22**, 148), pl. 126.
— **Jupsin.** 31 Ja. 1879. II. **10**, 22 (**21**, 222), pl. 6.
— **Lariano, etc.** Neapolitan patent. 2 Ja. 1860. I, **1** 470 (**5**, 407), pls. 68–73.
— **Martin.** 20 D. 1866. I, **3**, 297 (**7**, 123), pl. 85.
— **Martin.** 2 Ag. 1867. I, **4**, 255 (**7**, 395), pl. 81.
— **Martin.** 14 Mr. 1868. I, **5**, 44 (**8**, 114), pl. 12—Ex. II, **2**, 199 (**11**, 121).
— **Martin.** 10 Ag. 1868. I, **5**, 272 (**8**, 342), pl. 81.
— **Martin.** 31 D. 1870. II, **1**, 416 (**10**, 416), pl. 104.
— **Martin.** 18 Ap. 1882. II, **13**, 335 (**28**, 107), pl. 90.
— **Moog.** 20 O. 1877. II, **8**, 600 (**19**, 190), pl. 149.
— **Newton.** 17 F. 1869. I, **6**, 57 (**9**, 73), pls. 20, 21.
— **Noyer.** 13 Ap. 1869. I, **6**, 131 (**9**, 147), pl. 40.
— **Orsolino.** 30 D. 1856. (**1**, 332.) Ad. (**1**, 26).* (*Sardinia.*)
— **Schnichel.** 30 N. 1877. II, **8**, 686 (**19**, 276), pl. 181.
— **Varlet.** 5 F. 1870. II, **1**, 51 (**10**, 51), pl. 8.
— divider. **Bède e Comp.** 15 S. 1873. II, **4**, 452 (**13**, 432), pl. 117.
— — **Bolette.** 28 Je. 1879. II, **10**, 409 (**22**, 109), pl. 117.
— doffer. **Martin.** 17 F. 1869. I, **6**, 62 (**9**, 78), pl. 15—Ex. II, **1**, 282 (**10**, 282); **10**, 443 (**22**, 143).
— drum lining. **Busson.** 30 S. 1855. (**1**, 93.)* (*Sardinia.*)
— feeder. **Bolette.** 31 D. 1863. (**4**, 167)*—Ex. I, **1**, 376 (**5**, 313).
— — **Bramwell.** 25 F. 1881. II, **12**, 127 (**25**, 177), pl. 31.
— — **Busson.** 30 Je. 1855. (**1**, 12.)* (*Sardinia.*)
— — **Evans e King.** 22 Jl. 1870. II, **1**, 309 (**10**, 309), pl. 78.
— — **Martin.** 2 Ag. 1867. I, 4, 256 (**7**, 396), pl. 82.
— intermediate. **Rister.** 12 O. 1880. II, **11**, 700 (**24**, 301), pl. 204.

CARPENTERING. **Houbé, Guinet e Lemarchand.** 22 S. 1870. II, **1**, 356 (**10**, 356), pl. 92.

CARPET and blind manufacture. **Polko.** 30 S. 1862. (**3**, 352.)*
wood. **Majnardi.** 13 N. 1880. II, **11**, 800 (**24**, 401), pl. 229. Ad. **12**, 542 (**26**, 92).

CARRIAGE. *See also* Ordnance.
Bordoni. 29 N. 1881. II, **12**, 1019 (**27**, 99), pl. 288.
Dathis. 6 Ag. 1878. II, **9**, 493 (**20**, 348), pl. 151.
Dubosq. 7 O. 1872. II, **3**, 453 (**12**, 353), pl. 109.
Fanon. 12 D. 1879. II, **11**, 9 (**23**, 110), pl. 3. Ad. **11**, 163 (**23**, 264), pl. 52.
Masserano. 24 Ag. 1848. 1.* (*Sardinia.*)
axle. **Pivetti.** 29 S. 1868. I, **5**, 333 (**8**, 403), pl. 99.
— **Schiavetto.** 30 S. 1867. I, **4**, 319 (**7**, 459)—Ex. II, **1**, 419 (**10**, 419).
baby. **Murer.** 26 Je. 1880. II, **11**, 427 (**24**, 28), pl. 126.
— **Vanden Dale e Vandenweghe.** 24 D. 1874. II, **5**, 626 (**15**, 255), pl. 152.
brake. **Ferrario.** 27 Ap. 1881. II, **12**, 364 (**25**, 414), pl. 82.
— **Prat.** 31 Mr. 1871. II, **12**, 275 (**25**, 325), pl. 65.
— **Reynaud fils.** 18 Je. 1875. II, **6**, 313 (**16**, 81), pl. 67.
— catch. **Talard.** 22 F. 1881. II, **12**, 88 (**25**, 138), pl. 21.
— self-actiug. **Piovano.** 22 Jl. 1867. I, **4**, 234 (**7**, 374), pl. 71—Ex. II, **1**, 281 (**10**, 281).
door, opening and shutting. **Smith.** 22 F. 1873. II, **4**, 85 (**13**, 65), pl. 21.
electric. **Sforza.** 24 S. 1881. II, **12**, 862 (**26**, 412), pl. 229—Ext. **13**, 358 (**28**, 130).
hand. **Caldirola.** 9 Je. 1869. I, **6**, 269 (**9**, 285), pl. 90.
— **de Canibus.** 30 S. 1871. II, **2**, 338 (**11**, 260), pl. 70.
— **de Canibus.** 9 Ap. 1870. II, **1**, 154 (**10**, 154), pl. 37.
— **Vignoli.** 12 D. 1879. II, **10**, 819 (**23**, 19), pl. 231.
heater. **Chaumont.** 22 My. 1874. II, **5**, 237 (**14**, 346), pl. 53.

CARRIAGE—continued.
hinge (?). **Baron.** 9 Ag. 1867. I, **4**, 262 (**7**, 402), pl. 80.
invalid. **Sargent.** 30 S. 1863. (**4**, 68)*—Ex. I, **1**, 282 (**5**, 218).
mounting. **Letalle e Hendlé.** 25 Ja. 1878. II, **9**, 35 (**19**, 390), pl. 8.
propeller, pneumatic. **Lillie.** 14 Jl. 1864. I, **1**, 346 (**5**, 283).
propeller spring. **Autef.** 31 Ja. 1881. II, **12**, 59 (**25**, 109), pl. 11.
register. **Bouffier.** 28 F. 1871. II, **53** (**10**, 475), pl. 9.
— **Casparri.** 20 Jl. 1877. II, **8**, 422 (**19**, 12), pl. 111.
— **Filiette.** 30 S. 1862. (**3**, 318.)*
— **Pouget.** 31 Ag. 1881. II, **12**, 796 (**26**, 346), pl. 210.
safety. **Garrick.** 20 F. 1878. II, **9**, 76 (**19**, 431), pls. 19, 20.
— **Valli.** 25 Ja. 1878. II, **9**, 36 (**19**, 391), pl. 8.
spring. **Locati.** 20 F. 1878. II, **9**, 94 (**19**, 449), pl. 25.
suspension. **Delessert.** 30 S. 1880. II, **11**, 685 (**24**, 286), pl. 199.
top. **Chauvelot.** 30 S. 1856. (**1**, 263.)* (*Sardinia.*)
— **Schmetzer.** 28 S. 1881. II, **12**, 873 (**26**, 423), pl. 232.
— and spring. **Rock.** 21 Ja. 1867. I, **4**, 16 (**7**, 155), pl. 6.
— opening. **Mainetti.** 23 Je. 1871. II, **2**, 182 (**11**, 104), pl. 40. Ad. **2**, 326 (**11**, 248), pl. 71.
truck. **Hambruch.** 16 Ja. 1879. II, **10**, 7 (**21**, 207), pl. 1.
wheel. **Bruno.** 31 Jl. 1880. II, **11**, 519 (**24**, 120), pl. 145.
— **Diatto fratelli.** 16 O. 1878. II, **9**, 603 (**20**, 458), pl. 190.
— **Goetzenbrügger.** 23 Ap. 1881. II, **12**, 356 (**25**, 406), pl. 79.
— **Pendred.** 7 Jl. 1871. II, **2**, 203 (**11**, 125), pl. 46.
— **Reynolds.** 29 Ag. 1876. II, **7**, 421 (**17**, 373), pl. 105.
— **Testa e Comp.** 26 Je. 1881. II, **12**, 20 (**25**, 70), pl. 5.
— and track. **Breda.** 15 Mr. 1881. I, **12**, 182 (**25**, 232), pl. 44.
window fastener. **Coulon.** 13 Mr. 1868. I, **5**, 16 (**8**, 86), pl. 5.
CART. **Bergeron.** 19 Ap. 1872. II, **3**, 152 (**12**, 52), pl. 39.
Maggiorano. 24 D. 1869. I, **6**, 479 (**9**, 495), pl. 152.
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Brandon. 21 Ag. 1873. II, **4**, 405 (**13**, 385), pls. 108, 109. Ad. **4**, 616 (**14**, 96), pl. 169; **7**, 353 (**17**, 305), pl. 87; **8**, 455 (**19**, 45), pl. 118—Ex. **10**, 483 (**22**, 183). Ad. **11**, 919 (**25**, 20); **11**, 224 (**23**, 325), pl. 64; **12**, 1104 (**27**, 154), pl. 298.
Colombo e Micheloni. 30 D. 1871. II, **2**, 477 (**11**, 399).
Corbetta. 5 S. 1878. II, **9**, 549 (**20**, 404), pl. 169.
Cortese. 20 Mr. 1880. II, **11**, 162 (**23**, 263), pl. 51
Engel. 30 O. 1874. II, **5**, 521 (**15**, 130), pl. 120.
Ferry. 30 Je. 1858. (**2**, 85.)* (*Sardinia.*)
Fusnot. 31 D. 1863. (**4**, 126.)*
Fusnot. 21 Mr. 1874. II, **5**, 125 (**14**, 234), pl. 25.
Gauthey. 15 S. 1873. II, **4**, 443 (**13**, 423), pl. 115. Ad. **14**, 576 (**14**, 56), pl. 157.
Ghibellini fratelli. 5 Je. 1873. II, **4**, 264 (**13**, 244), pl. 70. Ad. **4**, 333 (**13**, 313), pl. 86.
Hotchkiss. 13 D. 1869. I, **6**, 461 (**9**, 477), pl. 147.—Ex. II, **3**, 504 (**12**, 404); **6**, 575 (**16**, 343); **9**, 666 (**21**, 21).
Jones. 3 D. 1866. I, **3**, 272 (**7**, 98), pl. 79.
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Krupp. 12 Je. 1880. II, **11**, 10 (**23**, 111), pl. 3—Ex. **11**, 184 (**23**, 285).
Lindner. 31 Mr. 1858. (**2**, 36)*—Ex. I, **1**, 187 (**5**, 123). (*Sardinia.*)
May. 31 D. 1867. I, **4**, 418 (**8**, 59), pl. 124.
McLean e Coloney. 18 Mr. 1879. II, **10**, 143 (**21**, 343), pl. 50.
Norris. 10 S. 1867. I, **4**, 303 (**7**, 443), pl. 94—Ex. **5**, 391 (**8**, 462).
Rognetta. 29 S. 1877. II, **8**, 563 (**19**, 153).
Roth. 13 D. 1869. I, **6**, 460 (**9**, 476), pl. 148.
blasting. **Boulart.** 31 Mr. 1857. (**1**, 380.)* (*Sardinia.*)
box. **Blanquet.** 30 S. 1862. (**3**, 324)*—Ex. I, **1**, 78 (**5**, 14).
— **Fouque.** 28 Mr. 1870. II, **1**, 121 (**10**, 121), pl. 25.
— **Krnka.** 5 My. 1880. II, **11**, 121 (**23**, 222), pl. 43.
— **Massip.** 31 D. 1878. II, **9**, 836 (**21**, 191), pl. 243.
— **Mestrallet.** 20 Ap. 1872. II, **3**, 163 (**12**, 63), pl. 44.

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— **Quinsac.** 28 Ag. 1873. II, **4**, 426 (**13**, 406), pl. 113.
— **Sauerbrey.** 28 F. 1878. II, **9**, 105 (**19**, 460), pl. 29.
— **Tensi fratelli.** 26 Je. 1877. II, **8**, 357 (**18**, 447), pl. 96.
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— **Boxer.** 24 Ja. 1868. I, **5**, 5 (**8**, 75), pl. 3.
— **Burton** 1 D. 1869. I, **6**, 445 (**9**, 461), pl. 143.
— **Carlé.** 13 S. 1869. I, **6**, 346 (**9**, 362), pl. 122.
— **Coloney.** 29 D. 1879. II, **10**, 856 (**23**, 56), pl. 243.
— **Gavard.** 29 Ja. 1870. II, **1**, 50 (**10**, 50), pl. 7.
— **Marchesini e Trainini.** 18 Jl. 1871. II, **2**, 220 (**11**, 142), pl. 49.
— **Marchesini e Trainini.** 14 S. 1872. II, **3**, 417 (**12**, 317), pl. 108.
— **Moreno e Ferrero.** 25 My. 1870. II, **1**, 213 (**10**, 213), pl. 53.
— **Neumeyer.** 20 D. 1869. I, **6**, 472 (**9**, 488), pl. 150.
— **Pieri.** 10 Mr. 1875. II, **6**, 105 (**15**, 373).
— **Sartoris.** 24 Ap. 1870. II, **1**, 170 (**10**, 170), pl. 42. Ad. **1**, 362 (**10**, 362), pl. 92; **2**, 136 (**11**, 58), pl. 27—Ex. **2**, 205 (**11**, 127).
— **Von der Poppenburg.** 3 D. 1866. I, **3**, 265 (**7**, 91).
— **Wilson.** 27 Ap. 1871. II, **2**, 117 (**11**, 39), pl. 24—Ex. **5**, 323 (**14**, 432).
capsuling tool. **Società anonima italiana per la fabbricazione della dinamite Nobel.** 28 Ag. 1877. II, **8**, 515 (**19**, 105), pl. 130.
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— **Kynock.** 6 D. 1881. II, **12**, 1078 (**27**, 128), pl. 294.
— **Rossotto e Bianchi.** 14 My. 1881. II, **12**, 420 (**25**, 470), pl. 101.
— bronze. **Létrange.** 6 Ag. 1881. II, **12**, 288 (**25**, 338).
— manufacture, metallic. **Allemano.** 26 My. 1869. I, **6**, 220 (**9**, 236), pl. 62.
— metallic. **Dexant.** 26 N. 1868. I, **5**, 374 (**8**, 445), pl. 104.
— reheating. **Hobbs.** 30 Mr. 1878. II, **9**, 172 (**20**, 27), pl. 4.
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— **Brandon.** 17 N. 1869. I, **6**, 414 (**9**, 430), pl. 137.
— **Brown.** 31 D. 1859. (**2**, 303.)* (*Sardinia.*)
— **Davey e Watson.** 14 Ag. 1874. II, **5**, 399 (**15**, 8), pl. 93.
— **Hanson.** 27 Ag. 1870, II, **1**, 339 (**10**, 339), pl. 85.
— **Robertson.** 31 Mr. 1863. (**3**, 438.)*
metallic. **Gauthey.** 29 D. 1874. II, **5**, 646 (**15**, 255), pl. 151.
— **Loewe.** 22 Jl. 1876. II, **7**, 372 (**17**, 324), pl. 93.
ordnance. **Siedersleben.** 6 Ag. 1878. II, 491 (**20**, 346), pl. 150.
retractor. **Izzo.** 28 O. 1869. I, **6**, 397 (**9**, 413), pl. 131.
— **Sparre.** 10 Ag. 1868. I, **5**, 259 (**8**, 329), pl. 79. Ad. **6**, 352 (**9**, 368), pl. 119.
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shell. **Voinar.** 2 S. 1868. I, **5**, 312 (**8**, 382), pl. 91—Ex. II, 7.
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CARVING MACHINE. **Drague.** 15 O. 1873. II, **4**, 508 (**13**, 488), pl. 144.
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CASK. **de Muller.** 31 Mr. 1880. II, **11**, 200 (**23**, 301), pl. 60.
CASTING buttons, type, etc. **Trippa.** 24 D. 1866. I, **3**, 310 (**7**, 136), pl. 88.
copper. **Lavroff.** 28 Ag. 1873. II, **4**, 422 (**13**, 402), pl. 110.
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— **Rives.** 19 N. 1867. I, **4**, 378 (**8**, 19), pl. 117.
— application of electricity in. **Bozza.** 26 O. 1864. I, **1**, 478 (**5**, 415).
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CASTER. **Biella.** 31 Ag. 1876. II, **7**, 425 (**17**, 377), pl. 106.
Carmien. 16 Ag. 1877. II, **8**, 483 (**19**, 73), pl. 123.
Fontaine. 17 F. 1882. II, **13**, 111 (**27**, 383), pl. 31.
Mauchain. 20 O. 1881. II, **12**, 934 (**26**, 484), pl. 249.
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CATERPILLAR-DESTROYING APPARATUS. **Badona.** 31 O. 1867. I, **4**, 351 (**7**, 492), pl. 107.
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holder. **Tesorone** 6 Mr. 1879. II, **10**, 108 (**21**, 308), pl. 33—Ex. **11**, 201 (**23**, 302).
CATTLE-SHEARS. **Gally** 30 S. 1867. I, **4**, 323 (**7**, 463), pl. 95.
CELLULOSE extracting from excrement. **Dengg et Cie.** 21 O. 1880. II, **11**, 732 (**24**, 333).
extracting from mulberry bark. **Gilles.** 31 D. 1860. (**2**, 479.)* (*Sardinia.*)
manufacture. **Mitscherlich.** 29 Ap. 1882. II, **13**, 380 (**28**, 152).
CEMENT. **Cetrone.** 6 Ag. 1872. II, **3**, 354 (**12**, 254).
Coignet. 30 S. 1856. (**1**, 334.)* (*Sardinia.*)
Lucas. 6 My. 1864. I, **1**, 180 (**5**, 116).
Marzocchi. 7 Jl. 1876. II, **7**, 331 (**17**, 283). Al. **7**. 542 (**17**, 495).
Marzocchi. 27 F. 1877. II, **8**, 84 (**18**, 174).
Marzocchi 30 Mr. 1877. II, **8**, 167 (**18**, 257).
Michel. 31 D. 1877. II, **8**, 757 (**19**, 346), pl. 201.
Sachs. 21 D. 1880. II, **11**, 874 (**24**, 475)—Ex. **12**. 1195 (**27**, 245).
Scapini. 31 Mr. 1858. (**2**, 31.)* (*Sardinia.*)
Sébille. 7 O. 1872. II, **3**, 452 (**12**, 352), pl. 109.
articles manufacture. **Calamel.** 10 F. 1871. II, **2**, 33 (**10**, 455).
block manufacture. **Thieben.** 20 N. 1880. II, **11**, 825 (**24**, 426).
hydraulic. **Bodda.** 30 Je. 1857. (**1**, 427.)* (*Sardinia.*)
— **Cadolini.** 16 My. 1876. II, **7**, 234 (**17**, 186).
— **Dalbono.** 30 S. 1859. (**2**, 269.)* (*Sardinia.*)
— **Delune e Comp.** 5 Ap. 1876. II, **7**, 164 (**17**, 116).
— **Drevet.** 20 Mr. 1872. II, **3**, 105 (**12**, 5).
— **Ducournau.** 21 Ja. 1865. I, **2**, 17 (**6**, 1).
— **Marchino.** 18 Ap. 1879. II, **10**, 224 (**21**, 424).
— **Mori.** 31 D. 1858. (**2**, 177.)* (*Sardinia.*)
— **Olivieri.** 27 O. 1873. II, **4**, 515 (**13**, 495).
— **Rosario.** 19 Jl. 1879. II, **10**, 477 (**22**, 177).
— **Scotti.** 30 S. 1862. (**3**, 326.)*
— manufacture. **Mundo.** 21 O. 1875. II, **6**, 560 (**16**, 328), pl. 132.
imitation Roman. **Guenin.** 31 D. 1856. (**1**, 301.)* (*Sardinia.*)
kiln. **Avril.** 28 Mr. 1873. II, **4**, 157 (**13**, 137), pl. 42.
— **Ballerio, Busnelli e Zesi.** 23 Mr. 1870. II, **1**, 109 (**10**, 109), pl. 23—Ex. **2**, 2 (**10**, 424). Ad. **2**, 20 (**10**, 442), pl. 4.
— **Bellotti.** 31 Mr. 1863. (**3**, 461.)*
— **Bermay.** 31 D. 1857. (**2**, 12.)* (*Sardinia.*)
— **Bonariva.** 5 My. 1874. II. **5**, 202 (**14**, 311), pl. 43.
— **Bonariva.** 26 Ap. 1877. II, **8**, 226 (**18**, 316), pl. 64.
— **Caccialanza.** 21 Mr. 1874. II, **5**, 124 (**14**, 233), pl. 27.
— **Chinaglia.** 8 Jl. 1872. II, **3**, 297 (**12**, 197), pl. 67.
— **Fattori.** 18 S. 1877. II, **8**, 527 (**19**, 117), pls. 132, 133.
— **Fontana.** 15 Mr. 1878. II, **9**, 113 (**19**, 468), pl. 31.
— **Martel.** 10 Mr. 1875. II, **6**, 103 (**15**, 371).
— **Novi.** 19 D. 1868. I, **5**, 411 (**8**, 582), pl. 12.
— **Novi e Goebeler.** 10 Ag. 1868. I, **5**, 276 (**8**, 346), pl. 84—Ex. II, **2**, 208, 209 (**11**, 130, 131).
— **Ponzano.** 14 My. 1874. II, **5**, 223 (**14**, 332), pl. 49.
— **Querini.** 29 D. 1873. II, **4**, 613 (**14**, 93), pl. 171.
— **Ravizza.** 30 Je. 1871. II, **2**, 183 (**11**, 105), pl. 41. Ad. **4**, 96 (**13**, 76), pl. 27—Ex. **7**, 580 (**18**, 33).
— **Ruggeri.** 2 N. 1877. II, **8**, 632 (**19**, 222), pl. 163—Ex. **11**, 949 (**25**, 50).
— **Sosso.** 31 Jl. 1869. I, **6**, 309 (**9**, 325), pl. 103—Ex. II, **1**, 261 (**10**, 261).
— **Sosso.** 5 Je. 1871. II, **2**, 163 (**11**, 85), pl. 35.
— **Venini.** 21 O. 1875. II, **6**, 553 (**16**, 321), pl. 132—Ex. **9**, 840 (**21**, 195).

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manufacture. **Bagnagatti de Giorgi.** 31 Mr. 1862. (**3**, 243.)*
— **Ducournau.** 14 Ja. 1876. II, **7**, 16 (**16**, 468).
— **Ferrero.** 31 O. 1871. II, **2**, 384 (**11**, 306).
— **Forbes.** 28 N. 1873. II, **4**, 566 (**14**, 46).
— **Paravicini.** 20 Ag. 1877. II, **8**, 490 (**19**, 80), pl. 125.
— **Scott.** 13 S. 1871. II, **2**, 313 (**11**, 235)—Ex. **5**, 275 (**14**, 384).
— **Scott.** 12 N. 1879. II, **10**, 740 (**22**, 440).
— **Signorile.** 21 S. 1872. II, **3**, 430 (**12**, 330), pl. 108.
— **Signorile.** 31 D. 1879. II, **10**, 866 (**23**, 86)—Ex. **11**, 938 (**25**, 39); **12**, 1207 (**27**, 257).
— **Société centrale des bétons agglomérés.** 17 Je. 1872. II, **3**, 253 (**12**, 153), pl. 56.
mill. **Sachsenberg e Brueckner.** 3 Je. 1876. II, **7**, 267 (**17**, 219), pl. 63.
mixer. **Fisher.** 7 Je. 1880. II, **11**, 358 (**23**, 459), pl. 101—Ex. **12**, 619 (**26**, 169).
pipe, hydraulic. **Villa.** 23 My. 1865. I, **2**, 142 (**6**, 126), pl. 32.
rammer. **Murnigotti.** 9 Jl. 1879. II, **10**, 438 (**22**, 138), pl. 124.
refining. **Signorile.** 20 N. 1879. II, **10**, 778 (**22**, 478)—Ex. **11**, 937 (**25**, 38); **12**, 1206 (**27**, 256).
sculptors'. **Sorel, etc.** 17 Ja. 1866. I, **3**, 4 (**6**, 330).
treating. **Westmacott.** 23 Ap. 1880. II, **11**, 259 (**23**, 360).
waterproof. **Ponti.** 30 Mr. 1875. II, **6**, 146 (**15**, 414)—Ex. **8**, 634 (**19**, 224). Ad. **10**, 32 (**21**, 232)—Ex. **12**, 252 (**25**, 302).
CENTRIFUGAL crusher. **Société anonyme des mines et fonderies de zinc de la Vieille Montagne.** 29 My. 1877. II, **8**, 305 (**18**, 395), pl. 82.
machine. **Étienne.** 25 F. 1881. II, **12**, 128 (**25**, 170), pl. 31.
— **Gwynne.** 26 F. 1879. II, **10**, 94 (**21**, 294), pl. 52.
— **Isolani.** 30 Je. 1879. II, **10**, 433 (**22**, 130), pl. 120.
— **Isolani.** 7 Je. 1880. II, **11**, 350 (**23**, 451), pl. 99.
— **Langen.** 18 O. 1878. II, **9**, 643 (**20**, 498), pl. 199.
— **Langen.** 30 N. 1878. II, **9**, 742 (**21**, 97), pl. 223.
— **Langen.** 31 Ja. 1879. II, **10**, 40 (**21**, 240), pl. 11.
— **Langen.** 31 My. 1881. II, **12**, 471 (**26**, 21), pl. 118.
— **Pzillas.** 28 Je. 1880. II, **11**, 431 (**24**, 32), pl. 128.
— **Société Burmeister et Wains Maskin- og Skibsleyggeri.** 20 O. 1881. II, **12**, 936 (**26**, 486), pl. 248.
— **Worms de Romilly.** 25 Jl. 1878. II, **9**, 474 (**20**, 329), pl. 141.
— cream. **Fesca.** 16 Ag. 1879. II, **10**, 550 (**22**, 250), pl. 155.
— — **Petersen.** 14 O. 1879. II, **10**, 683 (**22**, 383), pl. 184.
— milk. **Lefeldt et Lentsch.** 25 My. 1877. II, **8**, 293 (**18**, 383), pl. 79. Ad. **9**, 605 (**20**, 460), pl. 191.
— — **Maffei.** 31 My. 1880. II, **11**, 349 (**23**, 450), pl. 97.
separator. **de Laval.** 18 Je. 1879. II, **10**, 378 (**22**, 78), pl. 108.
— **de Laval.** 12 O. 1881. II, **12**, 913 (**26**, 463), pl. 243.
wine-press. **Leduc.** 29 D. 1874. II, **5**, 639 (**15**, 248), pl. 154.
CENTRIPETAL AND CENTRIFUGAL ENGINE. **Lüdeke.** 14 Ja. 1874. II, **5**, 4 (**14**, 113), pl. 1.
CESSPOOL cleaning by wave power. **Lamenzana.** 5 N. 1870. II, **1**, 382 (**10**, 382), pl. 99.
CHAFING-DISH. **Ferrero-Giraud.** 19 O. 1870. II, **1**, 375 (**10**, 375). Ad. **2**, 215 (**11**, 137).
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coupling. **Rosenberg fratelli.** 11 F. 1879. II, **10**, 65 (**21**, 265), pl. 17.
driving. **Rossi.** 14 Je. 1877. II, **8**, 341 (**18**, 431), pl. 94.
link machine. **Witgenmann.** 29 Ja. 1872. II, **3**, 30 (**11**, 430), pl. 8—Ex. **4**, 36 (**13**, 16).
manufacture, cast steel. **Società Hagener Gusstahlwerke.** 30 Ja. 1880. II, **11**, 45 (**23**, 146), pl. 114.
transmission. **Güller.** 19 S. 1878. II, **9**, 578 (**20**, 433), pl. 179.
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Barigozzi. 30 S. 1862. (**3**, 397.)*
Elli. 30 S. 1875. II, **6**, 522 (**16**, 290), pl. 128.
Villa. 13 Ag. 1880. II, **11**, 569 (**24**, 170), pl. 151—Ex. **12**, 290 (**25**, 340).

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adjustable. **Eckermann**. 31 Mr. 1879. II, **10**, 195 (**21**, 395), pl. 60.
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combination. **Peirotti**. 15 Mr. 1881. II, **12**, 190 (**25**, 240), pl. 46.
dentist's. **Markus e Benigni**. 12 Ap. 1880. II, **11**, 215 (**23**, 316), pl. 63.
folding. **Bazetta**. 28 Ag. 1873. II, **3**, 387 (**12**, 287), pl. 96—Ex. **4**, 496 (**13**, 476); **5**, 481 (**15**, 90).
— **Soave**. 14 S. 1872. II, **3**, 420 (**12**, 320), pl. 103.
pocket. **Granjon**. 30 Ja. 1875. II, **6**, 45 (**15**, 313), pl. 10.
seat. **Elli**. 10 D. 1877. II, **8**, 707 (**19**, 297), pl. 185—Ex. **9**, 839 (**21**, 194).
spring. **Lichtenfelder**. 10 S. 1873. II, **4**, 434 (**13**, 414), pl. 128.
CHALCEDONY, artificial, manufacture. **Candieni**. 30 Ja. 1865. I, **2**, 28 (**6**, 12)—Ex. 2, 88 (**6**, 414).
CHALK-CUTTING MACHINE. **Arosio Orsenigo, Ditta G. Sandrinelli e Comp**. 31 O. 1871. II, **2**, 386 (**11**, 308), pl. 81.
CHAMBERPOT LID. **Gori**. 17 Ja. 1870. II, **1**, 5 (**10**, 5), pl. 1.
CHANDELIER. **d'Argy**. 31 Mr. 1861. (**2**, 489.)*
CHARCOAL burning. **de Nomaison**. 24 S. 1864. I, **1**, 426 (**5**, 363), pl. 46.
manufacture. **Belluomini**. 16 S. 1878. II, **9**, 561 (**20**, 416).
— **Parish**. 15 O. 1873. II, **4**, 505 (**13**, 485), pl. 144. Ad. **5**, 164 (**14**, 273).
CHEESE grater. **Alessio**. 10 D. 1877. II, **8**, 411 (**19**, 301), pl. 185.
— **Fossati**. 4 Jl. 1878. II, **9**, 414 (**20**, 269), pl. 122.
— **Micca**. 25 Ja. 1879. II, **10**, 20 (**21**, 220), pl. 3.
— **Stroppiana e figli**. 18 Mr. 1879. II, **10**, 139 (**21**, 339), pl. 47.
— **Zanelli**. 12 D. 1878. II, **9**, 767 (**21**, 122), pl. 234.
manufacture. **Dragoni**. 31 My. 1872. II, **3**, 212 (**12**, 112).
— **Maffei**. 28 Mr. 1879. II, **10**, 167 (**21**, 367).
— **Mussi fratelli**. 10 N. 1877. II, **8**, 643 (**19**, 233), pl. 169—Ex. **11**, 931 (**25**, 32).
— by steam. **Zazzera**. 4 Ag. 1874. II, **5**, 375 (**14**, 484), pl. 83—Ex. **7**, 420 (**17**, 372).
press. **Martin**. 20 D. 1873. II, **4**, 593 (**14**, 73), pl. 165—Ex. **6**, 14 (**15**, 282).
CHEST PROTECTOR. **Grossi**. 25 Ap. 1878. II, **9**, 246 (**20**, 101), pl. 64.
CHESTNUT WOOD DIALYSING. **Kohlrausch**. 8 Mr. 1881. II, **12**, 169 (**25**, 219).
CHIMNEY. *See also* Lamp.
Schneider e Comp. 11 My. 1877. II, **8**, 270 (**18**, 360), pl. 75. Ad. **11**, 223 (**23**, 324).
Villanis. 31 D. 1861. (**3**, 154.)*
cap. **Wilcox**. 16 Ja. 1879. II, **10**, 8 (**21**, 208), pl. 1.
sweeping machine. **Piccaluga**. 27 N. 1877. II, **8**, 672 (**19**, 262), pl. 178. Ad. **9**, 476 (**20**, 331), pl. 143; **9**, 758 (**21**, 113)—Ex. **9**, 820 (**21**, 175).
— **Società anonima per lo spurgo di fuliggine**. 29 S. 1877. II, **8**, 559 (**19**, 149), pl. 139—Ex. **9**, 55 (**19**, 410).
top. **Dencausse**. 21 O. 1880. II, **11**, 735 (**24**, 333), pl. 213.
— **Mazzoleni**. 21 Ap. 1872. II, **4**, 190 (**12**, 170), pl. 49.
— **Puttemans**. 26 Ap. 1877. II, **8**, 227 (**18**, 317), pl. 59.
— **Wilhems**. 10 Ag. 1868. I, **5**, 279 (**8**, 349), pl. 85.
CHLORATES in art, salt replacing. **Druet e Lecoq**. 31 Mr. 1858. (**2**, 67.)* (*Sardinia.*)
CHLORIDE. *See also* Calcium, Copper bichloride, Potassium.
anhydrous, manufacture and decomposition. **Garneri**. 4 Ja. 1872. II, **3**, 4 (**11**, 404), pls. 2, 3.
CHLORINE MANUFACTURE. **Laurens**. 31 D. 1863. (**4**, 138)*—Ex. 1, **1**, 215 (**5**, 151).
CHLORITE. *See* Calcium hypochlorite.
CHOCOLATE SUBSTITUTE. **Caramelli**. 10 Ag. 1871. II, 249 (**11**, 171).
CHRONOGRAPH. **François**. 3 F. 1879. II, **8**, 41 (**18**, 131), pl. 10.
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CHUCK. **Paretto**. 30 Je. 1858. (**2**, 76).* (*Sardinia.*)
CHURN. **Clifton**. 15 N. 1866. I, **3**, 254 (**7**, 80), pl. 69—Ex. II, **1**, 34 (**10**, 34).
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Mure. 10 D. 1877. II, **8**, 700 (**19**, 290), pl. 185.
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CIDER-PRESS. **Debrosse**. 30 Ap. 1875. II, **6**, 211 (**15**, 479), pl. 43.
Rocher. 21 Ap. 1870. II, **1**, 160 (**10**, 160), pl. 37.
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— **Gialdroni**. 15 Mr. 1881. II, **12**, 180 (**25**, 230), pl. 41.
— **Riedel**. 18 O. 1878. II, **9**, 635 (**20**, 490), pl. 197. Ad. **10**, 772 (**22**, 472), pl. 211.
— **Strauss**. 30 Je. 1855. (**1**, 13.)* (*Sardinia.*)
— **Toussaint**. 31 D. 1862. (**3**, 371.)*
— **Townsend**. 27 Je. 1876. II, **7**, 318 (**17**, 270), pl. 74.
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— **Feuchères**. 29 Ja. 1877. II, **8**, 35 (**18**, 125), pl. 7.
— **Grimal**. 16 Mr. 1880. II, **11**, 141 (**23**, 242), pl. 47—Ex. **12**, 308 (**25**, 358).
— **Léonard**. 9 Mr. 1876. II, **7**, 104 (**17**, 56), pl. 26.
— **Terner e Krzyżanowski**. 27 Ap. 1881. II, **12**, 361 (**25**, 411).
— **Voisin e Dronier**. 12 Je. 1874. II, **5**, 276 (**14**, 385), pl. 62.
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— **Heckscher**. 26 Je. 1871. II, **2**, 189 (**11**, 111), pl. 43.
— **Moldenhauer**. 31 Jl. 1873. II, **4**, 370 (**13**, 350), pl. 98.
— **Pétri**. 30 S. 1868. I, **5**, 348 (**8**, 418), pl. 104.
— **Pistor**. 27 S. 1872. II, **3**, 442 (**12**, 342), pl. 107.
— **Reiniger** 31 Mr. 1865. I, **2**, 91 (**6**, 75), pl. 17.
— **Tanner**. 31 My. 1873. II, **4**, 251 (**13**, 231), pl. 67.
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— **Platz**. 26 Ap. 1879. II, **10**. 253 (**21**, 453), pl. 65.
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— **Bonsack**. 25 Ja. 1881. II, **12**, 6 (**25**, 56), pls. 2, 3—Ex. **12**, 1220 (**27**, 270).
— **Bonsack**. 12 O. 1881. II, **12**, 886 (**26**, 436), pl. 236.
— **Brehm**. 20 S. 1880. II. **11**, 630 (**24**, 231), pl. 181.
— **Cowman e Frost**. 29 Ag. 1881. II, **12**, 778 (**26**, 328), pls. 204–206.
— **Harrass**. 21 S. 1872. II, **3**, 431 (**12**, 331), pl. 99.
— **Leblond**. 28 Ap. 1882. II, **13**, 367 (**28**, 139), pls. 95, 96.
— **Lejeune e Decouflé**. 31 D. 1879. II, **10**, 865 (**23**, 65), pl. 246.
— **Vaudoit**. 28 D. 1871. II, **2**, 463 (**11**, 385), pl. 93.
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paper and match, combined. **Supery**. 2 Ag. 1867. I, **4**, 249 (**7**, 389). Ad. **5**, 355 (**8**, 426)—Ex. **5**, 394 (**8**, 465).
paper package. **Roca**. 16 Ja. 1879. II, **10**, 10 (**21**, 210).
paper tobacco. **Garan**. 8 Ag. 1874. II, **5**, 383 (**14**, 492)—**6**, 547 (**6**, 315).
— **Grosskopf**. 8 F. 1878. II, **9**, 45 (**19**, 400).
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Mastrobuono. 29 D. 1874. II, **5**, 637 (**15**, 246), pl. 155. Ad. **6**, 490 (**16**, 258), pl. 120.
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CITRON RIND extract. **Sturge e Hollings.** 14 Ja. 1874. II, **5**, 6 (**14**, 115), pl. 1.
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CLAY baluster manufacture. **Allardi.** 30 Je. 1856. (**1**, 202.)* (*Sardinia.*)
converting into stone. **Vineis.** 6 N. 1880. II, **11**, 790 (**24**, 391).
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fire. **Olivieri.** 26 Ag. 1875. II, **6**, 441 (**16**, 209).
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pipe. **Becchi.** 16 D. 1878. II, **9**, 777 (**21**, 132), pl. 231.
— coating. **Piperno.** 25 Jl. 1877. II, **8**, 414 (**19**, 4).
— machine. **Chinaglia.** 7 Jl. 1874. II, **5**, 340 (**14**, 449), pls. 78, 79.
— — tricolored. **Allardi.** 31 D. 1857. (**2**, 25.)* (*Sardinia.*)
press. **Wade.** 19 Ag. 1873. II, **4**, 394 (**13**, 374), pl. 104.
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CLIPPING SHEARS, horse-tail. **Corini.** 25 Jl. 1877. II, **8**, 435 (**19**, 25), pl. 116.
CLOCK. **Agnese e Agnesi.** 31 Mr. 1860. (**2**, 340.)* (*Sardinia.*)
Benoni. 19 Jl. 1865. I, **2**, 202 (**6**, 186), pl. 58.
Douglas. 30 N. 1881. II, **12**, 1052 (**27**, 102), pl. 487.
Ferrucci. 8 My. 1873. II, **4**, 218 (**13**, 198), pl. 58.
Flechet. 31 D. 1861. (**3**, 148.)*
Hénard e Lasnier. 5 Je. 1877. II, **8**, 313 (**18**, 403), pls. 85, 86.
Masetti. 30 Je. 1862. (**3**, 285.)*
Oletti. 31 D. 1855. (**1**, 116.)* (*Sardinia.*)
Pizzocheri. 30 Mr. 1860. (**2**, 399.)* (*Sardinia.*)
Potter. 22 D. 1875. II, **6**, 666 (**16**, 434), pl. 169.
Spinelli. 20 Ap. 1880. II, **11**, 234 (**23**, 335), pl. 64.
alarm. **Devillers.** 30 N. 1878. II, **9**, 738 (**21**, 93), pl. 226.
decimal. **Perazzi.** 18 My. 1877. II, **8**, 273 (**18**, 363), pl. 75.
— **Scagnetti.** 16 Ag. 1879. II, **10**, 547 (**22**, 217), pl. 156.
dial, illuminated. **Ortolani.** 20 Jl. 1871. II, **2**, 229 (**11**, 151), pl. 53.
electric. **Balestrini.** 30 Je. 1855. (**1**, 483.)* (*Sardinia.*)
— **Bessolo, Alemanno, Bosio e Comp.** 30 Je. 1857. (**1**, 460.)* (*Sardinia.*)
— **Bonhomme e Mildé.** 22 S. 1870. II, **1**, 357 (**10**, 357), pl. 96—Ex. **2**, 232 (**11**, 154).
— **Gondolo.** 21 O. 1875. II, **6**, 566 (**16**, 334), pl. 138.
— **Hipp.** 26 O. 1864. I, **1**, 480 (**5**, 417), pl. 77. Ad. to (**4**, 12).
— **Hipp.** 16 My. 1878. II, **9**, 294 (**20**, 149), pl. 78.
— **Lemoine.** 17 N. 1881. II, **12**, 1018 (**27**, 68), pl. 276.
— **Lupi.** 12 Ap. 1881. II, **12**, 302 (**25**, 352), pl. 71.
— **Masetti.** 9 S. 1869. I, **6**, 344 (**9**, 360), pl. 118.
— **Mautner.** 20 S. 1880. II, **11**, 647 (**24**, 248), pl. 188.
— **Mildé.** 28 F. 1879. II, **10**, 101 (**21**, 301), pl. 30.
— **Personne.** 21 D. 1880. II, **11**, 872 (**24**, 473), pl. 253.
— **Rosati.** 27 Ap. 1881. II, **12**, 265 (**25**, 415), pl. 82.
— **Schweizer.** 30 Jl. 1881. II, **12**, 707 (**26**, 257), pl. 182.

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escapement. **Durante.** 21 Ag. 1876. II, **7**, 410 (**17**, 362), pl. 103. Ad. **8**, 61 (**18**, 151), pl. 19.
— **Hanhart.** 15 Jl. 1883. II, **12**, 628 (**26**, 178), pl. 153. Ad. **12**, 995 (**27**, 45), pl. 272.
— **Petersen.** 30 S. 1875. II, **6**, 528 (**16**, 296), pl. 129.
— **Tiffany e Comp.** 15 D. 1874. II, **5**, 605 (**15**, 214), pl. 146.
geographical. **Gallino.** 23 O. 1869. I, **6**, 389 (**9**, 405), pl. 130.
— **Gorini.** 28 O. 1878. II, **9**, 670 (**21**, 25).
hand, illuminated by electricity. **Joppa.** 2 Je. 1870. II, **1**, 225 (**10**, 225), pl. 65.
hydropneumatic. **Mayrhofer.** 20 F. 1880. II, **11**, 77 (**23**, 178), pl. 29.
independent second. **Marcucci.** 18 Ja. 1882. II, **13**, 30 (**27**, 302), pl. 8.
office indicator. **Paoletti.** 16 D. 1878. II, **9**, 774 (**21**, 129), pl. 231.
planetarium. **Mouret.** 22 Ap. 1871. II, **2**, 106 (**11**, 28), pl. 19—Ex. **8**, 400 (**18**, 490).
pneumatic. **Compagnie générale des horloges pneumatiques.** 29 N. 1879. II, **10**, 785 (**22**, 485), pl. 218. Ad. **11**, 444 (**24**, 45), pl. 131.
ratchet wheel. **Stagno d'Alcontres.** 31 Mr. 1862. (**3**, 199.)*
regulator. **Mouchine.** 8 Ag. 1874. II, **5**, 386 (**14**, 495), pl. 90. Ad. **5**, 591 (**15**, 200), pl. 143.
stemwinder. **Azemar.** 31 Mr. 1862. (**3**, 239.)*
striking mechanism. **Masetti.** 30 Je. 1861. (**3**, 72.)*
— **Sommaruga.** 8 Jl. 1878. II, **9**, 428 (**20**, 283), pl. 126.
— **Theurer.** 12 Ap. 1864. I, **1**, 95 (**5**, 31), pl. 2.
synchronizing. **Wenzel, Molera e Cebrian.** 14 My. 1880. II, **11**, 305 (**23**, 406), pls. 90, 91.
two concentric dials. **Benassi.** 9 Ag. 1879. II, **10**, 538 (**22**, 238), pl. 153.
winding. **Société générale des horloges pneumatiques.** 10 Je. 1880. II, **11**, 379 (**23**, 480), pl. 106.
CLOCKWORK. **Bosio.** 31 D. 1863. (**4**, 158)*—Ex. I, **1**, 243 (**5**, 179).
motor. **Badoni, etc.** 28 Je. 1867. I, **4**, 205 (**7**, 345), pl. 69.
CLOD-CRUSHER. **Nicoli.** 17 Ap. 1867. I, **4**, 106 (**7**, 246), pl. 30.
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albumenizing. **Gambaro.** 26 Jl. 1879. II, **10**, 486 (**22**, 186).
cutting machine. **Philippsohn e Leschziner.** 31 Ja. 1880. II, **11**, 52 (**23**, 153), pl. 14—Ex. **12**, 114 (**25**, 164); **13**, 64 (**27**, 336).
— **Rognoni e Pirovano.** 21 Mr. 1877. II, **8**, 132 (**18**, 222), pl. 37.
— **Warth e Jobbins.** 28 N. 1872. II, **3**, 519 (**12**, 419), pl. 126.
decorating in relief. **Carbone.** 23 F. 1881. II, **12**, 92 (**25**, 142).
dressing. **Hosemann.** 31 D. 1881. II, **12**, 1219 (**27**, 269).
— breaking machine. **Garnier.** 20 Je. 1881. II, **12**, 536 (**26**, 86), pl. 132.
— machine. **Decoudun e Comp.** 23 Mr. 1870. II, **1**, 115 (**10**, 115), pl. 28.
drier. **Bassi.** 27 S. 1879. II, **10**, 632 (**22**, 332), pl. 175.
— **Trezzi.** 7 Jl. 1871. II, **2**, 200 (**11**, 122), pl. 46.
— **Welter.** 24 S. 1881. II, **12**, 832 (**26**, 382), pl. 224.
finishing drier. **Compagnie générale de teinturerie et apprêt, système André Lyon.** 21 Ap. 1882. II, **13**, 345 (**28**, 117).
finishing machine. **Jupsin.** 30 Je. 1856. (**1**, 180.)* (*Sardinia.*)
luster. **Oldrini.** 31 D. 1862. (**3**, 392.)*
manufacture from mulberry bark. **Buzzoni.** 22 Jl. 1868. I, **5**, 242 (**8**, 312).
measuring machine **Volterrani.** 20 Jl. 1877. II, **8**, 418 (**19**, 8), pl. 110.
napping machine. **Houssat.** 15 Mr. 1876. II, **7**, 118 (**17**, 70), pl. 27.
— **Lucassaigne.** 12 Mr. 1874. II, **5**, 98 (**14**, 207), pl. 20.
— designs. **Strakosch.** 31 D. 1877. II, **8**, 761 (**19**, 351), pl. 201.

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perforating. **Caccia e Comp.** 21 Ap. 1881. II, 12, 350 (**25**, 400).
press. **Tussin.** 9 F. 1867. I, **4**, 52 (**7**, 191), pl. 13.
sail. **Casa.** 17 N. 1875. II, **6**, 599 (**16**, 367).
— **Casa.** 22 Mr. 1876. II, **7**, 126 (**17**, 78).
sample cutter. **Meyer.** 20 N. 1880. II, **11**, 821 (**24**, 422), pl. 237.
scalloping on strips, machine. **Betirac.** 21 Ja. 1867. I, **4**, 10 (**7**, 149), pl. 7.
steaming. **Thierry-Mieg.** 8 Je. 1875. II, **6**, 297 (**16**, 65), pl. 62.
stretcher. **d'Auria.** 29 Jl. 1873. II, **4**, 363 (**13**, 343), pl. 93.
— **Devilder.** 30 S. 1878. II, **9**, 593 (**20**, 448), pl. 183.
— **Mazzoni.** 28 Mr. 1879. II, **10**, 175 (**21**, 375), pl. 53.
— **Neubarth e Longtain.** 28 D. 1871. II, **2**, 458 (**11**, 380), pl. 97.
teaseling. **Giacomini.** 29 Jl. 1872. II, **3**, 337 (**12**, 237), pl. 87. Ad. **5**, 280 (**14**, 389), pl. 67—Ex. **8**, 593 (**19**, 183).
tent. **Aducci.** 11 My. 1878. II, **9**, 268 (**20**, 123)—Ex. **10**, 165 (**21**, 365); **12**, 304 (**25**, 654). Ad. **13**, 240 (**28**, 112).
vegetable wool. **Murset.** 31 D. 1856. (**1**, 310.)* (*Sardinia.*)
— **Pavy.** 30 Je. 1855. (**1**, 31.)* (*Sardinia.*)
washing. **Gatti.** 11 Ag. 1851. 21.* (*Sardinia.*)
— machine. **Muchin.** 13 Ag. 1880. II, **11**, 550 (**24**, 151), pl. 153.
weaving embroidery. **Costamagna.** 30 D. 1857. (**1**, 492.)* (*Sardinia.*)
winding machine. **Dangoise.** 18 Jl. 1878. II, **9**, 449 (**20**, 304), pl. 133. Ad. **10**, 372 (**22**, 72), pl. 107.
CLOTHES beater. **Pugno.** 31 D. 1861. (**3**, 218.)*
cutter. **Rondel.** 17 S. 1875. II, **6**, 492 (**16**, 260), pl. 119.
cutting. **Hutter.** 27 Ag. 1874. II, **5**, 422 (**15**, 31), pl. 97.
drier. **Molteni.** 16 Ag. 1871. II, **2**, 261 (**11**, 183), pl. 56.
CLOTHING clasp. **Augier.** 3 S. 1872. II, **3**, 406 (**12**, 306), pl. 102.
fastening. **Wollerstein e figlio.** II, **7**, 185 (**17**, 137), pl. 43.
supporter. **Echtler.** 20 O. 1879. II, **10**, 693 (**22**, 393), pl. 185.
CLOVER-HULLER. **Chiarini.** 19 Mr. 1873. II, **4**, 123 (**13**, 103), pl. 34.
COAL cutter. **Du Bois.** 30 Ja. 1882. II, **13**, 61 (**27**, 333), pl. 16.
cutting machine. **Barker.** 29 S. 1829. I, **5**, 338 (**8**, 408), pl. 101—Ex. II. **5**, 431 (**15**, 43).
dust. **Perret.** 23 Ap. 1878. II, **9**, 224 (**20**, 79), pl. 54.
— agglomerating. **Couillard.** 30 S. 1861. (**3**, 115)*—Ex. I, **1**, 437 (**5**, 374).
— — **Ougier.** 31 Mr. 1859. (**2**, 219.)* (*Sardinia.*)
— — **Rollet.** 31 Mr. 1860. (**2**, 330.)* Ad. (**2**, 67). (*Sardinia.*)
— — furnace. **Bietrix et Cie.** 11 Mr. 1880. II, **11**, 136 (**23**, 237), pl. 47.
— — — **Tissot.** 16 S. 1872. II, **3**, 423 (**12**, 323), pl. 105. Ad. **4**, 1 (**12**, 481).
— — machine. **Chinaglia.** 24 Ap. 1870. II, **1**, 162 (**10**, 162), pl. 38.
— — — **Couffinhal.** 23 Ag. 1878. II, **9**, 520 (**20**, 375), pl. 159.
— — — **Evrard.** 31 Mr. 1857. (**1**, 386.)* (*Sardinia.*)
extracting. **Macnab.** 25 Mr. 1879. II, **10**, 158 (**21**, 358), pl. 52.
manufacture from peat. **Bocquet e Benard.** 31 Ja. 1873. II. **4**, 43 (**13**, 23), pls. 12, 13.
tar refining. **Biseo.** 30 D. 1876. II, **7**, 627 (**18**, 80), pl. 159.
treating. **Bessemer.** 31 D. 1858. (**2**, 167.)* (*Sardinia.*)
washing. **Evrard.** 24 S. 1872. II, **3**, 434 (**12**, 334), pl. 98. Ad. **4**, 257 (**13**, 237), pl. 68.
— **Rollet e Aussedat.** 31 Mr. 1860. (**2**, 346.)* (*Sardinia.*)
COAST defenses. **Timley.** 31 Mr. 1881. II, **12**, 263 (**25**, 313), pl. 62.
COAT. **Pitani.** 11 Ja. 1876. II, **6**, 7 (**15**, 275), pl. 2. Ad. **6**, 93 (**15**, 361), pl. 20.
Pitani. 12 Ap. 1877. II, **8**, 193 (**18**, 283), pl. 54.

COATING. **Pimont.** 30 S. 1858. (**2**, 157.)* (*Sardinia.*)
metallic. **Lassene.** 30 S. 1862. (**3**, 339.)*
non-conducting. **Bernard.** 25 S. 1871. II, **2**, 328 (**11**, 250). Ad. **3**, 391 (**12**, 291).
— **Leydet.** 29 D. 1874. II, **5**, 640 (**15**, 249).
wood, paper, etc. **Reinhold e Drake.** 30 Je. 1880. II, **11**, 448 (**24**, 49).
COBALT extracting. **Drouin, Dufoure e Devins.** 14 Mr. 1882. II, **13**, 192 (**27**, 464).
manufacture. **Fleitmann.** 24 F. 1881. II, **12**, 112 (**25**, 162)—Ex. **13**, 131 (**27**, 403).
plating. **Fleitmann.** 25 F. 1881. II, **12**, 120 (**25**, 170)—Ex. **13**, 127 (**27**, 399).
COCK. **Aymonnet.** 14 Ja. 1882. II, **13**, 18 (**27**, 290), pl. 5.
Bacigalupo. 8 My. 1869. I, **6**, 180 (**9**, 196), pl. 55.
Benini. 10 Ag. 1877. II, **8**, 461 (**19**, 51), pl. 118.
Borgetti. 30 Je. 1859. (**2**, 224.)* (*Sardinia.*)
Broquin ed al. 15 My. 1864. I, **1**, 261 (**5**, 197), pl. 22.
Chairolanza. 21 My. 1879. II, **10**, 297 (**21**, 497), pl. 79.
Clairac, Millot et Berger. 25 F. 1881. II, **12**, 122 (**25**, 172), pl. 28.
Colombo. 23 F. 1881. II, **12**, 109 (**25**, 159), pl. 27.
Cretté. 30 Je. 1857. (**1**, 462.)* (*Sardinia.*)
Cugia Delitala. 31 Mr. 1859. (**2**, 194.)* (*Sardinia.*)
Denans. 31 D. 1880. II, **11**, 921 (**25**, 22), pl. 261.
Duberle. 24 D. 1866. I, **3**, 306 (**7**, 132), pl. 86.
Ferraud. 30 Je. 1862. (**3**, 259.)*
Ferraud. 28 N. 1872. II, **3**, 516 (**12**, 416), pl. 122.
Fisher. 15 Je. 1878. II, **9**, 367 (**20**, 222), pl. 100.
Guyet. 31 D. 1857. (**2**, 24.)* Ad. (**1** 32); (**1**, 41). (*Sardinia.*)
Knaust. 11 F. 1875. II, **6**, 61 (**15**, 329), pl. 13.
Launay et de Vernez. 31 Mr. 1860. (**2**, 354.)* (*Sardinia.*)
Laurent. 30 S. 1859. (**2**, 284.)* (*Sardinia.*)
Martin. 31 D. 1859. (**2**, 298.)* (*Sardinia.*)
Ottino. 30 Je. 1862. (**3**, 269.)*
Pearson. 23 Ja. 1875. II, **6**, 29 (**15**, 297), pl. 8.
Pollavini, Laurent e Comp. 30 S. 1869. I, **6**, 373 (**9**, 389), pl. 128.
Rocco 30 Je. 1862. (**3**, 252.)*
Smith. 28 Mr. 1881. II, **12**, 231 (**25**, 281), pl. 55.
Société anonyme des produits chimiques. 22 Mr. 1882. II, **13**, 227 (**27**, 499), pl. 58.
Stanchi. 28 O. 1869. I, **6**, 398 (**9**, 414), pl. 132.
Tylor. 29 O. 1872. II, **3**, 487 (**12**, 387), pl. 118.
Young. 30 N. 1881. II, **12**, 1061 (**27**, 111), pl. 291.
Zuppardi. 25 Ja. 1881. II, **12**, 2 (**25**, 52), pl. 1.
for decanting carbon bi-sulphide. **Deperais.** 31 O. 1877. I, **4**, 355 (**7**, 496), pl. 102.
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— regulator. **Chameroy.** 28 Ag. 1871. II, **2**, 287 (**11**, 209), pl. 63.
register. **Oliviero.** 26 Je. 1871. II, **2**, 197 (**11**, 119), pl. 42.
tap. **Thesée** 27 Ag. 1879. II, **10**, 560 (**22**, 260), pl. 156.
valve. **Renard.** 20 Mr. 1869. I, **6**, 104 (**9**, 120), pl. 25.
COCOA fiber, utilizing. **Pallu de la Barrière.** 9 Jl. 1879. II, **10**, 444 (**22**, 144).
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COFFEE boiler. **Predari.** 10 F. 1872. II, **3**, 48 (**11**, 448), pl. 13.
— **Valle.** 26 Mr. 1867. I, **4**, 83 (**7**, 223), pl. 28—Ex. II, **1**, 15 (**10**, 15).
— **de Vita.** 28 F. 1874. II, **5**, 77 (**14**, 186), pl. 15.
compressing. **Ruch, Chertier e Berlit.** 10 O. 1877. II, **8**, 589 (**19**, 179).
condensed. **Fallaci.** 7 F. 1879. II, **10**, 62 (**21**, 262).
— **Pesier.** 31 D. 1880. II, **11**, 906 (**25**, 7).
drawing. **Doro.** 29 O. 1877. II, **8**, 625 (**19**, 215), pl. 154—Ex. **10**, 509 (**22**, 209).
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pot. **Bazin.** 28 Mr. 1881. II, **12**, 234 (**25**, 284), pl. 56.
— **Bianchi.** 16 Je. 1869. I, **6**, 239 (**9**, 255), pl. 73.
— **Boglioni.** 25 Jl. 1869. I, **6**, 298 (**9**, 314), pl. 94.
— **Cellesi.** 10 N. 1873. II, **4**, 541 (**14**, 21), pl. 150.
— **Conza.** 24 N. 1876. II, **7**, 560 (**18**, 13), pl. 140.
— **Doro.** 5 N. 1870. II, **1**, 377 (**10**, 377), pl. 98.
— **Ferro.** 10 Ja. 1882. II, **13**, 3 (**27**, 275), pl. 1.

COFFEE pot—continued.
— **Gerli.** 11 My. 1881. II, **12**, 397 (**25**, 447), pl. 98.
— **Gervais.** 8 Je. 1875. II, **6**, 285 (**16**, 53), pl. 63.
— **Hutchinson.** 11 D. 1871. II, **2**, 445 (**11**, 367), pl. 94.
— **Longoni.** 25 Ap. 1874. II, **5**, 191 (**14**, 300), pl. 39.
— **Malen.** 30 Mr. 1876. II, **7**, 156 (**17**, 108), pl. 37—Ex. **13**. 352 (**28**, 124).
— **Negretti.** 15 S. 1879. II, **10**, 597 (**22**, 297), pl. 171.
— **Ottina e Comp.** 25 Mr. 1881. II, **12**, 225 (**25**, 275), pl. 55.
— **Parise.** 5 N. 1879. II, **10**, 722 (**22**, 422), pl. 197.
— **Piccinelli.** 30 Ap. 1875. II, **6**, 215 (**15**, 485), pl. 49.
— **de Pietro e Castelli.** 30 Mr. 1875. II, **6**, 151 (**15**, 419), pl. 29.
— **Pinciara.** 27 F. 1875. II, **6**, 83 (**15**, 351), pl. 18.
— **Ravaglia.** 11 D. 1875. II, **6**, 646 (**16**, 414), pl. 160. Ad. **8**, 386 (**18**, 476).
— **Toselli.** 22 Jl. 1876. II, **7**, 363 (**17**, 315), pl. 89.
— **Turi.** 23 My. 1865. I, **2**, 137 (**6**, 121), pl. 30.
— **Vanni.** 3 F. 1875. II, **6**, 47 (**15**, 315), pl. 10.
— lamp chimney. **Cristophe.** 9 Je. 1864. I, **1**, 289 (**5**, 225), pl. 31.
preparing. **Scremin.** 12 Ap. 1880. II, **11**, 209 (**23**, 310).
roaster. **Doro.** 30 S. 1867. I, **4**, 318 (**7**, 458), pl. 95.
— **Perger et Cie.** 12 Ap. 1880. II, **11**, 208 (**23**, 309).
substitute. **Barucco, Gazzera e Sicca.** 31 Jl. 1880. II, **11**. 529 (**24**, 130).
— **Berlinghieri.** 11 Ap. 1874. II, **5**, 163 (**14**, 272).
— **Bogliani.** 13 S. 1870. II, **1**, 350 (**10**, 350).
— **Bolanachi.** 31 Jl. 1880. II, **11**, 518 (**24**, 119). Ad. **12**, 431 (**25**, 181), pl. 106.
— **de Canibus.** 22 My. 1874. II, **5**, 240 (**14**, 349).
— **Centurione.** 20 Je. 1881. II, **12**, 531 (**26**, 81).
— **Crastan.** 27 Ap. 1871. II, **2**, 121 (**11**, 43).
— **Drouchat.** 3 F. 1875. II, **6**, 46 (**15**, 314).
— **Francioni e Ferrantino.** 20 O. 1877. II, **8**, 590 (**19**, 180).
— **Gandolfi.** 21 D. 1880. II, **11**, 860 (**24**, 461).
— **Goria.** 30 S. 1856. (**1**, 230.)* (*Sardinia.*)
— **Grande.** 27 Mr. 1871. II, **2**, 114 (**11**, 36)—Ex. **3**, 150 (**12**, 50); **5**, 332 (**14**, 441). Ad. **5**, 378 (**14**, 487).
— **Gruber.** 21 N. 1881. II, **12**, 1024 (**27**, 74).
— **Henley.** 20 O. 188 . II, **12**, 920 (**26**, 470).
— **Pignière e Griglio.** 10 N. 1873. II, **4**, 543 (**14**, 23).
— **Raffinetti e Vola.** 27 Ap. 1871. II, **2**, 120 (**11**, 42).
— **Santoro e Sacuto.** 13 D. 1869. I, **6**, 451 (**9**, 467).
— **Tobler.** 10 O. 1877. II, **8**, 588 (**19**, 178).
— **Tubino.** 27 Ap. 1871. II, **2**, 122 (**11**, 44).
— **Vita.** 30 O. 1874. II, **5**, 528 (**15**, 137).
tablet. **von Hofmann.** 20 Ap. 1881. II, **12**, 333 (**25**, 383), pl. 75.
COFFIN. **Mayr.** 23 N. 1865. I, **2**, 311 (**6**, 295)—Ex. **4**, 5, (**7**, 144).
cement. **Koeppe.** 26 N. 1880. II, **11**, 836 (**24**, 437), pl. 238—Ex. **12**, 1111 (**27**, 161).
COIN holder. **Gillet.** 1 Ap. 1864. I, **1**, 66 (**5**, 2), pl. 1.
separator. **Thanisch.** 30 D. 1876. II, **7**, 622 (**18**, 75).
weigher, pocket. **Percivale.** 27 Ap. 1864. I, **1**, 163 (**5**, 99), pl. 14. Ad. **2**, 342 (**6**, 326), pl. 105—Ex. **3**. 39 (**6**, 365).
COINING. **Diérickx.** 31 Mr. 1860. (**2**, 331.)* (*Sardinia.*)
COKE desulphurizing. **Bianchi.** 15 Mr. 1877. II, **8**, 107 (**18**, 197)—Ex. **9**, 398 (**20**, 253).
furnace. **Rizzoli.** 22 F. 1870. II, **1**, 71 (**10**, 71), pl. 14. Ad. II, **2**, 89 (**11**, 11).
kiln. **Bellon.** 30 N. 1874. II, **5**, 587 (**15**, 196), pls. 143, 144.
— **Röber.** 11 Mr. 1882. II, **13**, 185 (**27**, 457), pl. 53.
— heat. utilizing. **de Foresta et Le Roux.** 31 D. 1855. (**1**, 103.)* (*Sardinia.*)
— — **Parodi.** 31 D. 1856. (**1**, 326.)* (*Sardinia.*)
manufacture. **Barelli e Lafond.** 24 Jl. 1872. II, **3**, 330 (**12**, 230). Ad. **4**, 57 (**13**, 37); **5**, 606 (**15**, 215); **6**, 109 (**15**, 377).
— **Biolley.** 17 Ja. 1866. I, **3**, 3 (**6**, 329).
— **Gatti e Cinguin.** 3 Ja. 1850. 4.* (*Sardinia.*)
— **Remorino.** 24 O. 1879. II, **10**, 702 (**22**, 402).
— from lignite. **Boccasini.** 31 D. 1859. (**2**, 307.)* (*Sardinia.*)
COLD PRODUCING APPARATUS. **Giffard.** 21 O. 1875. II, **6**, 562 (**16**, 330), pl. 135.
Windhausen. 3 F. 1877. II, **8**, 43 (**18**, 133), pls. 13, 14.
COLLAR. *See also* Horse, Paper.
Alekan. 2 My. 1868. I, **5**, 110 (**8**, 180), pl. 26.
COLLODION. **Bettini.** 31 D. 1873. II, **4**, 628 (**14**, 108).
COLOR, anthracene. **Simpson, Brooke e Royle.** 27 F. 1877. II, **8**, 85 (**18**, 175).
artificial indigo. **Société anonyme dite: Farbwerke vormals Meister, Lucius u. Brüning.** 22 Ap. 1882. II, **13**, 349 (**28**, 121).
lead. **French.** 14 D. 1881. II, **12**, 1100 (**27**, 150), pl. 298.
manufacture. **Arrigo.** 6 Ap. 1878. II, **9**, 195 (**20**, 50).
— **Church.** 31 Mr. 1860. (**2**, 312.)* (*Sardinia.*)
— **Laurent e Casthelas.** 31 D. 1861. (**3**, 188.)*
— from asphodel. **Digeon e Goldsmith.** 27 My. 1873. II, **4**, 241 (**13**, 221).
oil or lake. **Streuli et Cie.** 19 Je. 1880. II, **11**, 409 (**24**, 10).
red ultramarine. **Zeltner.** 25 Jl. 1877. II, **8**, 434 (**19**, 24)—Ex. **11**, 731 (**24**, 332); **12**, 845 (**26**, 396).
steatite white. **Muratori, Lechelle e Salvi.** 31 D. 1855. (**1**, 102.)* (*Sardinia.*)
violet ultramarine. **Zeltner.** 25 Jl. 1877. II, **8**, 433 (**19**, 23)—Ex. **11**, 690 (**24**, 291); **12**, 846 (**26**, 396).
zinc. **French.** 14 D. 1881. II, **12**, 1100 (**27**, 150), pl. 298.
— sulphide. **Griffiths.** 18 My. 1876. II, **7**, 243 (**17**, 195). Ad. **8**, 474 (**19**, 64)—Ex. **13**, 224 (**28**, 96).
COLUMN for glass roof, constructing. **Negro.** 12 Ap. 1864. I, **1**, 100 (**5**, 36), pl. 11.
COMB. *See also* Fine tooth.
toilet, polishing machine. **Garrone.** 14 Ag. 1874. II, **5**, 410 (**15**, 19), pl. 95.
tooth sharpening machine. **Jänecke.** 31 Ja. 1881. II, **12**, 47 (**25**, 97), pl. 9.
COMBING drum. **Leyherr.** 30 Je. 1857. (**1**, 387)—Ex. **1**, 22).* (*Sardinia.*)
machine. **Gaddum e Comp.** 26 Ap. 1879. II, **10**, 249 (**21**, 449), pl. 72. Ad. **11**, 932 (**25**, 33), pl. 265.
— **Halter.** 24 D. 1881. II, **12**, 1151 (**27**, 201), pl. 323.
— **Heilmann-Ducommun.** 31 My. 1879. II, **10**, 316 (**22**, 16), pls. 87–89.
— **Imbs.** 12 D. 1878. II, **9**, 760 (**21**, 115), pl. 230. Ad. **10**, 415 (**22**, 115), pl. 118.
— **Meunier.** 22 D. 1873. II, **4**, 608 (**14**, 88), pls. 167, 168.
— **Morel.** 30 S. 1862. (**3**, 311.)*
— **Rawson.** 21 D. 1860. (**2**, 488.)*
— drawing and winding apparatus. **Nouguier.** II, **10**, 503 (**22**, 203), pl. 145.
— hemp. **Good.** 9 N. 1876. II, **7**, 524 (**17**, 477), pl. 132.
— silk waste. **Brenier et Cie.** 30 Mr. 1878. II, **9**, 189 (**20**, 44), pl. 49—Ex. **12**, 105 (**25**, 155).
wool. **Vanzina e Comp.** 30 S. 1857. (**1**, 471.)* (*Sardinia.*)
COMBUSTION. **Schultz.** 25 Mr. 1878. II, **9**, 164 (**20**, 19), pl. 43—Ex. **10**, 223 (**21**, 423). Ad. **11**, 3 (**23**, 104), pls. 1, 2.
COMMERCIAL UNION. **Monaci.** 5 My. 1879. II, **10**, 268 (**21**, 468).
COMPASS. **Huntzinger.** 30 Ja. 1865. I, **2**, 27 (**6**, 11), pl. 111.
mariner's. **Benary.** 18 Je. 1875. II, **6**, 210 (**16**, 78), pl. 68.
— **Fileti.** 20 Jl. 1870. II, **1**, 305 (**10**, 305), pl. 72.
— **Grandjean ed al.** 13 Mr. 1868. I, **5**, 28 (**8**, 98), pl. 8.
— **Kalmar.** 5 Ja. 1873. II, **4**, 10 (**12**, 490), pl. 2.
— **Longfellow.** 19 Jl. 1879. II, **10**, 480 (**22**, 180), pl. 133.
— **Peichl.** 31 Ag. 1881. II, **12**, 795 (**26**, 345), pl. 209.
— **Siccardi.** 31 D. 1879. II, **10**, 882 (**23**, 82), pl. 244.
COMPASSES and dividers. **Wallegg e Hirsch.** 20 F. 1880. II, **11**, 87 (**23**, 188), pl. 33—Ex. **12**, 253 (**25**, 303).
COMPOSITION. *See also* Pottery.
Schenk frères. 16 Mr. 1880. II, **11**, 146 (**23**, 247)—Ex. **12**, 230 (**25**, 280); **13**, 266 (**28**, 38).
Simon. 30 S. 1859. (**2**, 288.)* (*Sardinia.*)
Smith e Paterson. 11 D. 1875. II, **6**, 645 (**16**, 413).
embossing and coloring. **Compagnia Lincrusta-Walton.** 31 D. 1880. II, **11**, 913 (**25**, 14), pls. 262, 263. Ad. **12**, 89 (**25**, 139).
COMPOUND-ENGINE **Poillon.** 28 F. 1878. II, **9**, 104 (**19**, 459), pl. 26.
COMPRESS. *See* Abdominal.
COMPRESSING PRESS. **Société nouvelle des forges et chantiers de la Mediterranée.** 31 Ja. 1879. II, **10**, 36 (**21**, 236), pl. 11.

COMPRESSOR. *See* Air, Gas.
CONCENTRATING aromatic, etc., liquids. **Barberis.** 3 Mr. 1873. II, **4**, 110 (**13**, 90)—Ex. **6**, 145 (**15**, 413).
by silicon hydrate. **Varrine.** 17 Je. 1872. II, 3, 249 (**12**, 149).
CONDENSER. *See also* Distilling, Gas, Gas illuminating, Sulphur, Vapor.
Black e Hawthorn. 20 F. 1880. II, **11**, 80 (**23**, 181), pl. 29—Ex. **12**, 142 (**25**, 192).
Blumberg. 26 Je. 1881. II, **12**, 18 (**25**, 68), pl. 4.
Brossard. 25 Ja. 1879. II, **10**, 17 (**21**, 217), pl. 4.
Buieson. 31 Mr. 1857. (**1**, 382.)* (*Sardinia.*)
Chiazzari. 16 Je. 1865. I, **2**, 172 (**6**, 156), pl. 49.
Ckiandi. 15 D. 1877. II, **8**, 720 (**19**, 310), pl. 188.
Corbelli. 29 Mr. 1881. II, **12**, 241 (**25**, 291), pl. 58.
Enrico. 16 Ag. 1877. II, **8**, 487 (**19**, 77), pl. 125.
Kusenberg. 21 Ap. 1875. II, **6**, 199 (**15**, 467), pl. 39—Ex. **12**, 160 (**25**, 210).
steam. **Nézeraux.** 3 Mr. 1869. I, **6**, 80 (**9**, 96), pl. 23.
— engine. **Daina.** 21 Je. 1865. I, **2**, 18 (**6**, 2), pl. 4. Ad. **2**, 308 (**6**, 292), pl. 92.
CONDENSING liquefiable matters suspended in gas. **Arduoin.** 19 Ag. 1873. II, **4**, 399 (**13**, 379), pl. 105—Ex. **10**, 641 (**22**, 341).
COOKING. **Silber.** 20 Mr. 1872. II, **3**, 104 (**12**, 4), pl. 29—Ex. **6**, 120 (**15**, 388).
apparatus. **Buckwelt.** 5 Ag. 1870. II, **1**, 325 (**10**, 325, pl. 82—Ex. **3**, 133 (**12**, 33).
— **Cail.** 5 Ag. 1870. II, **1**, 324 (**10**, 324), pl. 83—Ex. **2**, 226 (**11**, 148).
— **Cardinal.** 10 F. 1865. I, **2**, 49 (**6**, 33), pl. 9.
— **Coppi e Neri.** 14 Ag. 1874. II, **5**, 401 (**15**, 10), pl. 92.
— **Palma.** 11 My. 1878. II, **9**, 269 (**20**, 124), pl. 73. Ad. **10**, 9 (**21**, 209), pl. 2.
— **Sorensen.** 10 O. 1867. I, **4**, 336 (**7**, 477), pl. 103.
— **Valazza.** 20 My. 1864. I, **1**, 263 (**5**, 199), pl. 22.
— camp. **Aurinetta.** 16 Ag. 1877. II, **8**, 481 (**19**, 71), pl. 122. Ad. **9**, 286 (**20**, 141); **9**, 463 (**20**, 318).
— — **Gervais e Comp.** 12 Je. 1876. II, **7**, 281 (**17**, 233), pl. 56.
— — **Pedrone.** 20 O. 1877. II, **8**, 618 (**19**, 208), pl. 153.
— petroleum. **Colicchia.** 23 Je. 1873. II, **4**, 291 (**13**, 271), pl. 79.
— portable. **Entz.** 27 Je. 1876. II, **7**, 317 (**17**, 269), pl. 74.
— — **Grove.** 13 S. 1881. II, **12**, 824 (**26**, 374), pl. 221.
— — **Peyer.** 28 Je. 1878. II, **9**, 405 (**20**, 260), pl. 121.
— — **Tiesset.** 15 Mr. 1866. I, **3**, 80 (**6**, 406), pl. 24.
— — petroleum. **Gigli.** 14 Jl. 1864. I, **1**, 336 (**5**, 273), pl. 60.
— — steam. **von Zyka-Radvánsky, Liedman e Scharrath.** 29 Ap. 1881. II, **12**, 374 (**25**, 424), pl. 93.
— steam. **Antonietti.** 31 Ag. 1876. II, **7**, 424 (**17**, 376), pl. 106.
— — **Kumberg.** 11 My. 1877. II, **8**, 266 (**18**, 356), pl. 73.
— — **Lancia.** 13 Ap. 1864. I, **1**, 110 (**5**, 46), pl. 14.
— — **Viglino.** 26 Jl. 1879. II, **10**, 506 (**22**, 206), pl. 143.
boiler. **Ellenberger.** 7 N. 1874. II, **5**, 535 (**15**, 144), pl. 124.
— **Pauksch.** 10 Je. 1880. II, **11**, 369 (**23**, 470), pl. 104.
fats. **Theric.** 27 D. 1875. II, **6**, 668 (**16**, 436).
pot. **Becker.** 11 My. 1878. II, **9**, 276 (**20**, 131), pl. 75.
— **Castrogiovanni.** 14 O. 1869. I, **6**, 380 (**9**, 396), pl. 129. Ad. II, **1**, 153 (**10**, 153), pl. 36—Ex. **1**, 346 (**10**, 346).
steam. **Betti.** 9 O. 1873. II, **4**, 481 (**13**, 461), pl. 135.
COOLER. *See also* Beer, Liquid, Wine.
Gontard. 31 Mr. 1882. II, **13**, 288 (**28**, 60), pl. 71.
liquid. **Nolden.** 19 Ag. 1871. II, **2**, 265 (**11**, 187), pl. 58.
— **Petit frères.** 25 Mr. 1879. II, **10**, 154 (**21**, 354), pl. 51.
COOLING. **Tessié du Motay e Rossi.** 14 My. 1880. II, **11**, 315 (**23**, 416).
air. **Nézeraux.** 29 Jl. 1872. II, **3**, 334 (**12**, 234), pl. 83.
buildings, cars, etc. **Tiffany Refrigerating Car Company.** 30 Mr. 1878. II, **9**, 184 (**20**, 39), pl. 48.
COP tube machine. **Corpet, etc.** 7 My. 1868. I, **5**, 113 (**8**, 183), pl. 27.
— **Piccone.** 4 F. 1865. I, **2**, 42 (**6**, 26), pl. 12.
COPPER bichloride ($Cu\ Cl_2$) and ferric hydrate ($Fe_2\ O_3$, $H_2\ O$) simultaneous production. **Macay.** 13 Jl. 1880. II, **11**, 461 (**24**, 62).
casting. **Lavroff.** 28 Ag. 1873. II, **4**, 422 (**13**, 402), pl. 110.
cement, from pyrites. **Ferrero.** 31 D. 1859. (**2**, 308.)* (*Sardinia.*)
coating. **Gauduin, Mignon e Rouart.** 25 Ja. 1873. II, **4**, 38 (**13**, 18).
— on iron and steel. **Thompson.** 24 N. 1868. I, **5**, 367 (**8**, 438).
— on nails. **Pellas.** 7 O. 1865. I, **2**, 260 (**6**, 244).
extracting. **Cobley.** 20 F. 1874. II, **5**, 54 (**14**, 163).
— **Drouin, Dufoure e Devins.** 14 Mr. 1882. II, **13**, 192 (**27**, 464).
— **Macay.** 22 Jl. 1880. II, **11**, 502 (**24**, 103).
— **Maxwell-Lyte.** 26 Jl. 1879. II, **10**, 505 (**22**, 205), pl. 142.
— **Pettinau-Monti.** 10 N. 1876. II, **7**, 544 (**17**, 497), pl. 139.
— **Rössler.** 29 Mr. 1882. II, **13**, 254 (**28**, 26), pl. 68.
— **Romley.** 23 Ap 1880. II, **11**, 246 (**23**, 347), pls. 72, 73.
— **Schwarzernberg.** 31 D. 1867. I, **4**, 417 (**8**, 58), pl. 127.
— from mixed ores. **Maxwell-Lyte.** 20 Ag. 1877. II, **8**, 494 (**19**, 84).
— from ore. **Barnard e Emmens.** 11 Je. 1874. II, **5**, 269 (**14**, 378).
— — **Drouin e de Baxeres de Torres.** 10 D. 1877. II, **8**, 714 (**19**, 304).
— from pyrites. **Cobley.** 12 Je. 1871. II, **2**, 160 (**11**, 91)—Ex. **5**, 339 (**14**, 448).
— wet. **Stella.** 9 F. 1874. II, **5**, 52 (**14**, 161).
hammering machine. **Museo fratelli.** 24 F. 1881. II, **12**, 115 (**25**, 165), pl. 28.
ore, argentiferous, treating. **Designolle.** 30 Ap. 1881. II, **12**, 387 (**25**, 437), pl. 94.
ore enriching. **Arnaud.** 15 S. 1879. II, **10**, 609 (**22**, 309).
ore treating. **Bechi e Haupt.** 30 S. 1856. (**1**, 228.)* Ad. (**1**, 14.) (*Sardinia.*)
— **Cobley.** 18 N. 1871. II, **2**, 406 (**11**, 328)—Ex. **6**, 10 (**15**, 278).
— **Manhes.** 31 Ag. 1880. II, **11**, 598 (**24**, 199). Ad. **11**, 868 (**24**, 469)—Ex. **12**, 187 (**25**, 237). Ad. **12**, 188 (**25**, 238).
— **Montefiori.** 30 Je. 1863. (**4**, 47.)*
oxide extracting. **Krafft e Schischkar.** 25 My. 1880. II, **11**, 339 (**23**, 440.)
pyrites. **Puistienne.** 30 Je. 1861. (**3**, 75.)*
— separating. **Larue.** 19 Ag. 1873. II, **4**, 395 (**13**, 375), pl. 103.
reducing by electrolysis. **Domingo.** 30 D. 1864. I, **1**, 544 (**5**, 481)—Ex. **3**, 14 (**6**, 340).
refining. **Zenger.** 31 My. 1873. II, **3**, 223 (**12**, 123).
separating, electric. **Parodi e Marcazzini.** 20 Mr. 1880. II, **11**, 161 (**23**, 262).
smelting furnace. **Kantorowicz.** 11 Mr. 1865. I, **2**, 70 (**6**, 54), pl. 12.
treating. **Manhes.** 14 Ag. 1876. II, **7**, 400 (**17**, 352). Ad. **7**, 427 (**17**, 379).
COPYING. **Anghinelli.** 18 Je. 1879. II, **10**, 374 (**22**, 74).
Lehn. 11 My. 1881. II, **12**, 412 (**25**, 462), pl. 99.
Loewenberg. 20 Mr. 1875. II, **6**, 110 (**15**, 378)—Ex. **7**, 87 (**17**, 39); **12**, 276 (**25**, 326).
Magne. 24 S. 1881. II, **12**, 833 (**26**, 383).
Mazza. 8 F. 1878. II, **9**, 68 (**19**, 423).
Muller. 7 F. 1877. II, **8**, 59 (**18**, 149)—Ex. **9**, 309 (**20**, 164).
Salgari. 30 Je. 1881. II, **12**, 593 (**26**, 143).
Ungerer e Bazant. 31 Ja. 1879. II, **10**, 42 (**21**, 242).
drawings. **Frey.** 7 Je. 1880. II, **11**, 353 (**23**, 454).
in printing ink. **Stener.** 21 D. 1880. II, **11**, 869 (**24**, 470).
paper. **Heyland.** 31 Jl. 1879. II, **10**, 518 (**22**, 218).
— **de Zuccato.** 12 Ag. 1875. II, **6**, 414 (**16**, 182).
press. **Croce.** 15 S. 1873. II, 4, 449 (**13**, 429), pl. 122.
— **Florence.** 5 Jl. 1864. I, **1**, 330 (**5**, 266), pl. 40.
— **Forliga.** 20 D. 1879. II, **10**, 836 (**23**, 36), pl. 232. Ad. **11**, 148 (**23**, 249), pl. 50.
— **Grassi.** 9 D. 1870. II, **1**, 401 (**10**, 401), pl. 101. Ad. **2**, 291 (**11**, 213), pl. 64.

COPYING press—continued.
— **Müller.** 28 Je. 1879. II, **10**, 408 (**22**, 108).
— **Picco.** 28 Ap. 1864. I, **1**, 168 (5, 104).
— **Schmitt e Paget.** 31 D. 1879. II, **10**, 877 (**23**, 77), pl. 251.
— **Schneider.** 11 F. 1882. II, **13**, 95 (**27**, 367), pls. 30, 31.
— **de Susini-Ruiseco.** 17 Jl. 1873. II, **4**, 350 (**13**, 330), 96.
— **de Zuccato.** 9 N. 1878. II, **9**, 676 (**21**, 31), pl. 207.
— **de Zuccato e Wolff.** 12 Mr. 1879. II, **10**, 274 (**21**, 474), pl. 77.
— pocket. **Furnel.** 7 N. 1874. II, **5**, 541 (**15**, 150), pl. 125.
— — **Valera.** 20 Ja. 1880. II, **11**, 23 (**23**, 124). Ad. **11**, 697 (**24**, 298).
CORAL dredge. **Defiilppi.** 31 Mr. 1863. (**3**, 428.)*
CORDAGE broom. **Mannini.** 12 Ap. 1873. II, **4**, 167 (**13**, 147)—Ex. **5**, 171 (**14**, 280).
disintegrating machine. **Opper de Blowitz.** 16 Je. 1864. I, **1**, 313 (**5**, 249), pl. 34.
machine. **Binns.** 24 S. 1875. II, **6**, 511 (**16**, 279), pl. 124.
— **Laneri.** 25 Ap. 1850. 7.* (*Sardinia.*)
CORK coating, walls, floors, roofs. **Marinoni.** 11 My. 1881. II, **12**, 396 (**25**, 446).
cutter. **Barcelò.** 9 N. 1876. II, **7**, 539 (**17**, 492), pl. 136.
— **Barcelò.** 9 N. 1876. II, **7**, 540 (**17**, 493), pl. 137.
— **Barcelò.** 9 N. 1876. II, **7**, 541 (**17**, 494), pl. 137.
— **Caffarena.** 30 S. 1867. I, **4**, 321 (**7**, 461), pl. 98.
— **Société Bermet-Malpas, Lonjou et Cie.** 30 Je. 1862. (**3**, 277.)*
— **Telesio.** 31 D. 1857. (**2**, 7.)* (*Sarainia.*)
— **Telesio.** 30 Je. 1860. (**2**, 401.)* (*Sardinia.*)
cutting machine. **Babacci.** 24 D. 1870. II, **1**, 405 (**10**, 405), pl. 102.
— **Gaston.** 2 Mr. 1881. II, **12**, 140 (**25**, 190), pls. 37, 38.
— **Sauvan.** 7 Ap. 1866. I, **3**, 91 (**6**, 417), pl. 32.
polishing machine. **Gramizzi.** 19 Ap. 1873. II, **4**, 177 (**13**, 157), pl. 48.
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pulverizing. **Marinoni e Comp.** 25 Ja. 1878. II, **9**, 29 (**19**, 384)—Ex. **11**, 857 (**24**, 458).
separator and counter. **Barcelò.** 15 D. 1877. II, **8**, 727 (**19**, 317), pl. 195.
stopper machine. **Barcelò.** 7 Je. 1879. II, **10**, 342 (**22**, 42), pl. 97.
— **Telesio.** 31 Mr. 1861. (**3**, 36.)*
— **Telesio.** 20 Je. 1873. II, **4**, 285 (**13**, 265), pl. 73.
treating. **Capgrand-Mothes.** 18 O. 1878 II, **9**, 609 (**20**, 464).
CORKSCREW. **Fogliano.** 4 N. 1871. II, **2**, 398 (**11**, 320), pl. 84.
Massussi. 21 Ag. 1876. II, **7**, 409 (**17**, 361), pl. 101.
Winckler. 31 Ja. 1880. II, **11**, 54 (**23**. 155), pl. 115.
CORN cleaning. **Baud.** 31 D. 1862. (**3**, 405.)*
cob utilizing. **Grande.** 30 S. 1856. (**1**, 276.)* (*Sardinia.*)
food. **Auer e Velsback.** 31 Mr. 1863. (**3**, 429)*—Ex. I, **1**, 507, 509 (**5**, 444, 446).
husker. **Pannochia.** 30 N. 1877. II, **8**, 687 (**19**, 277), pl. 181.
— **Piana.** 19 Jl. 1879. II, **10**, 475 (**22**, 172), pl. 132.
— **Schobesberger.** 9 S. 1869. I, **6**, 339 (**9**, 355); pl. 118.
— and sheller. **Grecchi.** 11 Ja. 1875. II, **6**, 1 (**15**, 269), pl. 1—Ex. **7**, 51 (**17**, 3).
sheller. **Aventi.** 14 F. 1870. II, **1**, 67 (**10**, 67), pls. 13, 14.
stalk crusher. **Barthe.** 26 N. 1868. I, **5**, 377 (**8**, 448), pl. 105.
steaming. **Bohm.** 26 Je. 1877. II, **8**, 362 (**18**, 452), pl. 98.
CORPSE preserving. **Betti.** 30 Ap. 1870. II, **1**, 183 (**10**, 183).
CORSET busk. **Cocking.** 22 Ja. 1872. II, **3**, 18 (**11**, 418).
fastening, steel. **Boisier.** 23 Ag. 1865. I, **2**, 225 (**6**, 209), pl. 58.
COTTON, artificial. **Ferrero.** 31 Mr. 1862. (**3**, 342.) Ad. (**1**, 119).
gin. **Durand.** 31 Mr. 1863. (**3**, 439)—Ex. I, **1**, 162 (**5**, 98); **1**, 414 (**5**, 351); **2**, 118 (**6**, 102). Ad. **2**, 98 (**6**, 82), pl. 20.
— **Martin.** 20 D. 1866. I, **3**, 298 (**7**, 124), pls. 84, 85—Ex. II, **1**, 36 (**10**, 36).
imitation. **Ferrero.** 9 F. 1866. I, **3**, 35 (**6**, 361).
opener, heater, and cleaner. **Schällibaum.** 20 Ap. 1880. II, **11**, 233 (**23**, 334), pl. 68.

COTTON—continued.
press. **Société Wohl et Cie.** 8 Jl. 1878. II, **9**, 437 (**20**, 292), pl. 128.
rags, reducing for respinning. **Fanelli.** 30 Ap. 1864. I, **1**, 169 (**5**, 105), pl. 20.
seed crusher. **Detti.** 17 S. 1875. II, **6**, 493 (**16**, 261), pl. 121.
seed huller. **Goudouin.** 31 D. 1864. I, **1**, 563 (**5**, 500), pl. 86.
seed separating. **Goldring.** 27 Ap. 1869. I, **6**, 160 (**9**, 176).
substitute. **Ferrero.** 15 Jl. 1864. I, **1**, 350 (**5**, 287).
thread, marking. **Salle.** 11 Je. 1874. II, **5**, 262 (**14**, 371).
COUNTER. *See* Cork.
COUNTERFEITING, preventing. **Abate.** 1 Je. 1868. I, **5**, 170 (**8**, 240).
COUNTING register. **Asvisio.** 21 Mr. 1870. II, **1**, 92 (**10**, 92), pl. 19.
— **Baravelli.** 1 F. 1869. I, **6**. 29 (**9**, 45), pl. 9.
— **Baravelli.** 30 Jl. 1869. I, **6**, 277 (**9**, 293), pl. 92.
— **Baravelli.** 23 Jl. 1869. I, **6**, 292 (**9**, 308), pl. 99.
— **Baravelli.** 7 S. 1869. I, **6**, 333 (**9**, 349), pl. 113.
— **Bertolaso.** 18 S. 1877. II, **8**, 523 (**19**, 113), pl. 131.
— **Bourset.** 26 Ag. 1875. II, **6**, 454 (**16**, 222), pl. 105.
— **Brouet.** 30 Je. 1863. (**4**, 87.)*
— **Calzone.** 16 Ap. 1881. II, **12**, 329 (**25**, 379), pl. 76.
— **Caselli.** 6 N. 1869. I, **6**, 404 (**9**, 420), pls. 133, 134. Ad. II, **1**, 193 (**10**, 193), pl. 48.
— **Conti.** 24 Mr. 1869. I, **6**, 124 (**9**, 140), pl. 36.
— **Daina.** 28 My. 1868. I, **5**, 151 (**8**, 221), pl. 41.
— **Ducommun.** 2 D. 1868. I, **5**, 420 (**8**, 491), pl. 128—Ex. II, **5**, 359 (**14**, 468).
— **Fannio.** 10 Ag. 1868. I, **5**, 261 (**8**, 331), pl. 79.
— **Fazzi.** 17 F. 1869. I, **6**, 51 (**9**, 67), pl. 22.
— **Ferrero.** 23 Mr. 1869. I, **6**, 117 (**9**, 133), pl. 39.
— **Gallardo e Guardiola.** 30 Jl. 1870. II, **1**, 313 (**10**, 313), pl. 80.
— **Guebhard e Tronchon.** 1 My. 1872. II, **3**, 186 (**12**, 86), p. 51.
— **Lamotte.** 3 Mr. 1881. II, **12**, 153 (**25**, 203).
— **Marinelli.** 19 N. 1873. II, **4**, 558 (**14**, 38), pl. 151. Ad. **5**, 329 (**14**, 438), pl. 76—Ex. **5**, 658 (**15**, 267). Ad. **6**, 11 (**15**, 279).
— **Mazza.** 14 My. 1870. II, **1**, 195 (**10**, 195), pl. 48.
— **Ollian.** 27 Ap. 1869. I, **6**, 161 (**9**, 177), pl. 48.
— **Pettini.** 9 Ag. 1869. I, **6**, 314 (**9**, 330), pl. 104.
— **Poli.** 1 Mr. 1869. I, **6**, 73 (**9**, 89), pl. 19.
— **Ponsard.** 7 My. 1868. I, **5**, 123 (**8**, 193), pl. 28.
— **Porcinaj e Biagioni.** 14 My. 1870. II, **1**, 198 (**10**, 198), pl. 53.
— **Rabò, Monticelli, Villa e Grimaldi.** 27 N. 1871. II, **2**, 422 (**11**, 344), pl. 87.
— **Raffo e Wolf.** 14 Ap. 1869. I, **6**, 140 (**9**, 156), pl. 57. Ad. II, **1**, 17 (**10**, 17), pl. 2—Ex. **1**, 287 (**10**, 287).
— **Rocheblave.** 19 N. 1873. II, **4**, 554 (**14**, 34), pl. 153. Ad. **4**, 561 (**14**, 41), pl. 155.
— **Rouselle e Mariotte.** 30 S. 1880. II, **11**, 672 (**24**, 273), pl. 194.
— **Ruélans.** 24 Ja. 1870. II, **1**, 29 (**10**, 29), pl. 5.
— **Saure.** 18 Je. 1868. I, **5**, 211 (**8**, 281), pl. 55.
— **Scaparone.** 15 My. 1867. I, **4**, 212 (**7**, 352), pl. 70.
— **Schulz.** 29 S. 1868. I, **5**, 324 (**8**, 394), pl. 91.
— **Sonnet e Boissier.** 18 Mr. 1879. II, **10**, 140 (**21**, 340), pl. 48.
— **Taverdon e Roulina.** 18 Mr. 1879. II, **10**, 144 (**21**, 314), pl. 36.
— **Taylor.** 8 N. 1869. I, **6**, 407 (**9**, 423), pl. 132.
— **Thiabaud.** 16 Je. 1868. I, **5**, 210 (**8**, 280), pl. 54.
— **Thiabaud.** 21 D. 1868. I, **5**, 417 (**8**, 488), pl. 121.
— **Thiabaud.** 7 O. 1872. II, **3**, 458 (**12**, 358), pl. 110.
— **Vannuccini.** 16 Ap. 1869. I, **6**, 155 (**9**, 171), pl. 48.
— barroom. **Nardi.** 7 F. 1873. II, **4**, 51 (**13**, 31), pl. 14.
— hydraulic. **Balegno.** 16 My. 1869. I, **6**, 190 (**9**, 206), pl. 55.
— motion transmission. **Flechet.** 10 Ag. 1868. I, **5**, 264 (**8**, 334), pl. 79. Ad. **5**, 284, 287 (**8**, 354, 357), pl. 84—Ex. II, **5**, 90 (**14**, 199).
— theater. **Calvert.** 31 D. 1870. II, **1**, 415 (**10**, 415), pl. 104—Ex. **2**, 39 (**10**, 461).
— typographic. **Trouillet.** 31 Mr. 1863. (**3**, 459)*—Ex. I, **1**, 375 (**5**, 312).

COUPLING. *See* Belt, Car, Chain, Hose, Locomotive, Piano octave, Pipe, Railway rail.
COVER. *See* Bottle, Umbrella.
CRACKER. **Allard.** 9 Ap. 1877. II, **8**, 173 (**18**, 263).
Barthe. 28 Mr. 1879. II, **10**, 178 (**21**, 378).
Baruffi. 20 My. 1880. II, **11**, 321 (**23**, 422).
Guelfi. 30 N. 1873. II, **4**, 572 (**14**, 52).
Luraschi. 5 Je. 1871. II, **2**, 157 (**11**, 79).
CRADLE. **Boyer.** 1 Je. 1868. I, **5**, 180 (**8**, 250), pl. 5. Ad. **6**, 209 (**9**, 225), pl. 67.
CRANE. *See also* Hydraulic.
Berardi. 26 O. 1876. II, **7**, 519 (**17**, 472), pl. 129—Ex. **8**, 555 (**19**, 145),
Crivelli a Tarantola. 31 My. 1881. II, **12**, 467 (**26**, 12), pl. 117.
Dussant. 31 Mr. 1858. (**2**, 44.)* (*Sardinia.*)
Faraut. 30 Je. 1858. (**2**, 129.)* (*Sardinia.*)
Weickum. 20 Ag. 1874. II, **5**, 411 (**15**, 20), pl. 96—Ex. **6**, 614 (**16**, 382); **7**, 458 (**17**, 410); **12**, 849 (**26**, 399).
drum. **Le Blanc.** 22 Ja. 1867. I, **4**, 36 (**7**, 175), pl. 16.
portable. **Coudoint-Gougeul.** 18 Mr. 1879. II, **10**, 133 (**21**, 333), pl. 49.
rotary. **Couvreux e Combe.** 30 Je. 1862. (**3**, 276)* —Ex. I, **1**, 393 (**5**, 330).
scales. **Faraut.** 30 S. 1858. (**2**, 171.)* (*Sardinia.*)
CRANK mechanism, obviating fly-wheel. **Musciano.** 27 Ap. 1871. II, **3**, 115 (**11**, 37), pl. 18.
CREAM machine, centrifugal. **Fesca.** 16 Ag. 1879. II, **10**, 550 (**22**, 250), pl. 155.
— **Petersen.** 14 O. 1879. II, **10**, 683 (**22**, 383), pl. 184.
CREMATION furnace. **Betti.** 4 My. 1876. II, **7**, 224 (**17**, 176), pl. 54. Ad. **8**, 470 (**17**, 176), pl. 121.
— **Gorini.** 4 My. 1876. II, **7**, 226 (**17**, 178), pl. 54. Ad. **9**, 196 (**20**, 51), pl. 50—Ex. **10**, 279 (**21**, 479). Ad. **11**, 602 (**24**, 203).
— **Grancini e Conti.** 20 Ap. 1878. II, **9**, 207 (**20**, 62), pl. 52. Ad. **9**, 580 (**20**, 435), pl. 180.
— **Polli e Clericetti.** 30 Mr. 1876. II, **7**, 151 (**17**, 103), pl. 37.
— **Venini.** 27 My. 1879. II, **10**, 307 (**22**, 7), pl. 84.
CRICKET trap. **Hauvel e Durand.** 28 O. 1878. II, **9**, 664 (**21**, 19).
CRUCIBLE loading and unloading. **Foulis** 28 Ag. 1873. II, **4**, 419 (**13**, 399), pl. 112—Ex. **5**, 407 (**15**, 16).
manufacture. **Bondi fratelli.** 25 S. 1871. II, **2**, 316 (**11**, 238).
CRUSHER. *See* Centrifugal, Clod, Cotton-seed, Grain, Ore, Stone.
CRUSHING-MILL. **Chapitel et Loizeau.** 24 O. 1879. II, **10**, 704 (**22**, 404), pl. 193.
Jones. 14 Mr. 1866. I, **3**, 74 (**6**, 400), pl. 22.
Steimmig. 21 Ap. 1876. II, **7**, 199 (**17**, 151), pl. 45.
CUE. *See* Billiard.
CUFF. **Alekan.** 2 My. 1868. I, **5**, 110 (**8**, 180), pl. 26.
CULTIVATING. **Aroux.** 30 S. 1857. (**1**, 457.)* (*Sardinia.*)
CULTIVATOR. **Edwards.** 29 Ja. 1870. II, **1**, 49 (**10**, 49), pl. 6.
CUP. *See also* Advertising.
and ball. **Martin et Magnin.** 31 D. 1861. (**3**, 156.)*
CUPOLA furnace. **Stigler.** 17 Jl. 1868. I, **5**, 236 (**8**, 306), pl. 68.
CUPPING apparatus. **Damoiseau.** 31 D. 1861. (**3**, 161.)*
— dry. **Behnke.** 9 Ag. 1879. II, **10**, 535 (**22**, 235), pl. 153.
CURRENT indicator, electric ship's bow. **Guscetti.** 13 Ap. 1881. II, **12**, 312 (**25**, 362), pl. 73.
CURTAIN fastening. **Hartshorn.** 24 Mr. 1877. II, **8**, 139 (**18**, 229), pl. 39.
— **Hartshorn** 8 My. 1877. II, **8**, 252 (**18**, 342), pl. 71.
fixture. **Lippold e Rautenberg.** 31 D. 1879. II, **10**, 862 (**23**, 62), pl. 141. Ad. **11**, 526 (**24**, 127), pl. 146 —Ex. **11**, 870 (**24**, 471).
rod hook. **Rautenberg.** 16 Mr. 1882. II, **13**, 202 (**27**, 474), pl. 55.
straw. **Dall'Olio.** 28 My. 1864. I, **1**, 269 (**5**, 205).
CURVE-DRAWING instrument. **Duthie.** 24 N. 1876. II, **7**, 563 (**18**, 16), pl. 145.
— **Piffaretti.** 30 S. 1875. II, **6**, 524 (**16**, 292), pl. 128.
CUSHION. *See also* Billiard, Saddle and harness.
cork. **de Harilaoz.** 26 Mr. 1880. II, **11**, 186 (**23**, 287).
noise preventing. **Bigatti.** 30 S. 1860. (**2**, 431.)* (*Sardinia.*)
CUT-OFF. **de Nobele.** 25 S. 1871. II, **2**, 320 (**11**, 242), pl. 70—Ex. **5**, 470 (**15**, 79).
CUTTER. *See* Brush, Cigar, Clay, Cloth-sample, Clothes, Coal, Cork, Dough, Dovetail, Glass bead tube, Glass, Glass tube, Straw, Tube, Vegetable, Vermicelli.
CYANIDE manufacture. **Alder.** 31 D. 1881. II, **12**, 1203 (**27**, 253).
CYLINDER. *See* Locomotive, Printing, Steam engine.
CYMBALS. **Rossi.** 11 Ja. 1875. II, **6**, 2 (**15**, 270), pl. 2.
DAM, movable. **Jolly.** 18 Je. 1868. I, **5**, 219 (**8**, 289), pl. 74.
DEAD-EYE BLOCK. **Mantero.** 31 Ag. 1868. I, **5**, 298 (**8**, 368), pl. 85—Ex. II, **6**, 561 (**16**, 329).
DECANTING inflammable liquids. **Bernstein.** 20 F. 1878. II, **9**, 87 (**19**, 442), pl. 23.
DECOMPOSITION apparatus. **Wright et Fouché.** 30 Je. 1857. (**1**, 439.)* (*Sardinia.*)
DECORATING house fronts. **Michieloni.** 15 Jl. 1874. II, **5**, 344 (**14**, 453), pl. 81.
DECORATION, house. **Somasco.** 16 O. 1871. II, **2**, 343 (**11**, 265), pl. 73.
military. **Gerbaldi.** 31 Mr. 1856. (**1**, 135.)* (*Sardinia.*)
DESIGN. *See also* Furniture, Jewelry.
making. **Stephenson.** 9 N. 1878. II, **9**, 677 (**21**, 32).
DESK. **Moore.** 30 Ap. 1878. II, **9**, 263 (**20**, 118), pl. 67.
Ravano. 26 D. 1876. II, **7**, 603 (**18**, 56), pl. 154.
Ricci. 7 F. 1876. II, **7**, 57 (**17**, 9), pl. 16.
Ubermuhlen. 22 O. 1874. II, **5**, 506 (**15**, 115), pl. 116.
Walcker. 20 Je. 1875. II, **6**, 331 (**16**, 99), pl. 73.
reading. **Cechetti fratelli.** 21 Ag. 1873. II, **4**, 404 (**13**, 384), pl. 105.
school. **Ricci.** 29 D. 1874. II, **5**, 635 (**15**, 244), pl. 149.
— **Wolf e Weiss.** 29 O. 1877. II, **8**, 627 (**19**, 217), pls. 154, 155—Ex. **11**, 909 (**25**, 10).
DESULPHURIZING apparatus, wine. **Tubi.** 26 N. 1867. I, **4**, 382 (**8**, 23), pl. 117.
DETERGENT. **Egerton, Mitford e Watkins.** 6 Je. 1872. II, **3**, 230 (**12**, 130).
DEXTRINE, extracting from Jalapa mirabilis. **Moreno.** 30 O. 1874. II, **5**, 527 (**15**, 136).
DIAL. *See* Clock.
DIARY. **Messaggi.** 25 My. 1880. II, **11**, 330 (**23**, 431), pl. 94.
DIGGER. **Lacarrière.** 18 N. 1879. II, **10**, 763 (**22**, 463), pl. 211.
Magrini fratelli. 12 Ag. 1875. II, **6**, 418 (**16**, 186), pl. 92.
Parker. 29 Mr. 1882. II, **13**, 250 (**28**, 22), pl. 61.
DISH. *See* Chafing.
DISINFECTING. **Chisolm.** 30 S. 1858. (**2**, 149.)* (*Sardinia.*)
air. **Aurineta.** 31 Mr. 1863. (**3**, 485.)*
apparatus. **Bailly.** 20 Ag. 1874. II, **5**, 416 (**15**, 25), pl. 95.
— **Baker.** 28 Ag. 1873. II, **4**, 411 (**13**, 391), pl. 109—Ex. **5**, 338 (**14**, 447).
— **Praetorius.** 31 Mr. 1880. II, **11**, 202 (**23**, 303), pls. 60, 61.
— **Synge.** 15 O. 1873. II, **4**, 509 (**13**, 489), pl. 145—Ex. **5**, 628 (**15**, 237).
buildings and cities. **de Podervils.** 30 N. 1878. II, **9**, 741 (**21**, 96), pls. 222-225—Ex. **11**, 12 (**23**, 113).
clothing. **Ricci.** 29 Jl. 1872. II, **3**, 340 (**12**, 240), pl. 85.
compound. **Aducci.** 30 Je. 1862. (**3**, 286.)*
— **Anselmi.** 31 Mr. 1860. (**2**, 328.)* (*Sardinia.*)
— **Canier.** Ag 2. 1865. I, **2**, 213 (**6**, 197).
— **Kingzett e Zigler.** 9 Ag. 1878. II, **9**, 515 (**20**, 370)—Ex. **12**, 860 (**26**, 410).
— **Huch.** 31 Ag. 1876. II, **7**, 438 (**17**, 390).
— **Medail.** 23 Ag. 1872. II, **3**, 378 (**12**, 278).
— **Pavesi e Rotondi.** 10 Jl. 1875. II, **6**, 357 (**16**, 125), pl. 78.
— **Pezzali.** 8 Ag. 1874. II, **5**, 380 (**14**, 489)—Ex. **6**, 535 (**16**, 303).
— **Weyssi.** 31 My. 1878. II, **9**, 343 (**20**, 198).
— soap. **Buczkowski.** 14 D. 1881. II, **12**, 1098 (**27**, 147).
nightsoil. **Petri.** 8 Je. 1881. II, **12**, 516 (**26**, 66).
powder. **Milani.** 5 Ag. 1871. II, **2**, 241 (**11**, 163).
DISINTEGRATOR. **Schultze.** 21 S. 1872. II, **3**, 429 (**12**, 329), pl. 99.
Sodero. 18 Je. 1875. II, **6**, 321 (**16**, 89), pl. 71—Ex. **7**, 299 (**17**, 251).

DISTILLING. **Berlinghieri.** 15 Mr. 1873. II, **4**, 121 (**13**, 101).
Romano. 30 S. 1869. I, **6**, 396 (**9**, 392), pl. 129.
and rectifying. **Claes et Rancq frères.** 17 F. 1882. II, **13**, 112 (**27**, 384), pl. 33.
— **Compagnie industrielle des procédés Raoul Pictet.** 22 F. 1881. II, **12**, 84 (**25**, 134), pl. 21. Ad. **12**, 540 (**26**, 90), pl. 135.
apparatus. **Bequet.** 7 O. 1865. I, **2**, 266 (**6**, 250), pl. 73—Ex. **3**, 245 (**7**, 71).
— **Béquet.** 23 Ag. 1867. I, **4**, 287 (**7**, 427), pl. 88.
— **Bruni.** 30 S. 1856. (**1**, 261.)* (*Sardinia.*)
— **Buatier.** 13 O. 1876. II, **7**, 496 (**17**, 449), pl. 125—Ex. **10**, 639 (**22**, 339).
— **Cacciami.** 31 D. 1861. (**3**, 196.)*
— **Cacciami.** 30 S. 1862. (**3**, 307.)* Ad. (**1**, 118).
— **Calliburcés.** 14 D. 1881. II, **12**, 1112 (**27**, 162), pls. 300–307.
— **Coffey.** 7 Jl. 1866. I, **3**, 165 (**6**, 491), pl. 52.
— **Dietsche.** 30 Ja. 1882. II, **13**, 70 (**27**, 342), pl. 22.
— **Gill.** 17 Ag. 1854. 97.* (*Sardinia.*)
— **Gill.** 20 Jl. 1870. II, **1**, 306 (**10**, 306), pl. 78.
— **Giussani.** 9 Je. 1871. II, **2**, 165 (**11**, 87), pl. 38.
— **Greffe.** 20 F. 1878. II, **9**, 95 (**19**, 450), pl. 25.
— **Greffe fils.** 9 Ag. 1879. II, **10**, 521 (**22**, 221), pl. 149.
— **Lucco-Mussino.** 22 Jl. 1880. II, **11**, 506 (**24**, 107), pls. 144, 145.
— **Montagna.** 6 Ap. 1881. II, **12**, 283 (**25**, 333), pl. 68. Ad. **12**, 909 (**26**, 459).
— **Richard.** 15 Mr. 1866. I, **3**, 73 (**6**, 399), pl. 21.
— **Rocco.** 30 D. 1864. I, **1**, 532 (**5**, 469), pl. 83.
— **Romano.** 22 My. 1865. I, **2**, 133 (**6**, 117)—Ex. **2**, 134–5 (**6**, 118–9), pl. 27.
— **Savalle.** 14 N. 1865. I, **2**, 337 (**6**, 321), pl. 106.
— **Schener.** 8 F. 1878. II, **9**, 58 (**19**, 413), pl. 12—Ex. **10**, 159 (**21**, 359).
— **Sharp e Smith.** 26 Ap. 1877. II, **8**, 223 (**18**, 313), pl. 63.
— **de Simone.** 31 Mr. 1865. I, **2**, 109 (**6**, 93), pl. 26.
— **Stemmer.** 13 Ag. 1875. II, **6**, 429 (**16**, 197), pl. 96.
— ammonia. **Grüneberg.** 31 Mr. 1880, II, **11**, 204 (**23**, 305), pl. 61.
— — **Lair.** 20 Je. 1875. II, **6**, 328 (**16**, 96), pl. 71.
— — **Rankin.** 14 My. 1881. II, **12**, 416 (**25**, 466), pl. 101.
— — **Société anonyme des produits chimiques du Sud-Ouest.** 13 Ag. 1880. II, **11**, 551 (**24**, 152), pl. 152.
— essence. **Monfalcone.** 31 D. 1872. II, **3**, 578 (**12**, 478), pl. 143.
— fat bodies. **Compagnie générale d'éclairage.** 11 F. 1879. II, **10**, 64 (**21**, 264), pl. 18.
— hydrocarbon. **Best.** 30 S. 1863. (**4**, 86.)*
— oil. **Lugo ed al.** 22 Ja. 1867. I, **4**, 27 (**7**, 166), pl. 11.
— petroleum. **Howell.** 25 O. 1871. II, **2**, 380 (**11**, 302), pl. 81.
— steam. **Voisin.** 17 Ja. 1878. II, **9**, 7 (**19**, 362), pl. 5. Ad. **9**, 122 (**19**, 477).
— sulphur. **Amavet.** 17 Ja. 1866. I, **3**, 9 (**6**, 335), pl. 5. Ad. **3**, 183 (**7**, 9); **4**, 96 (**7**, 236), pl. 29.
— wine. **Solferini.** 25 F. 1881. II, **12**, 123 (**25**, 173), pl. 30.
— wood. **Chabert.** 3 Ag. 1854. 65.* (*Sardinia.*)
asphodel. **Capietti.** 30 S. 1857. (**2**, 15.)* (*Sardinia.*)
— **Capietti.** 30 S. 1857. (**2**, 16.)* (*Sardinia.*)
carbonaceous minerals and wood. **Lee.** 22 Ap. 1871. II, **2**, 103 (**11**, 25).
coal tar and mineral oils. **Subtil.** 17 F. 1865. I, **2**, 52 (**6**, 36), pl. 13.
coal, utilizing heat lost. **Bellon.** 30 N. 1874. II, **5**, 587 (**15**, 196), pls. 143, 144.
condenser. **Erba fratelli.** 6 Ap. 1881. II, **12**, 286 (**25**, 336), pl. 68.
glycerine. **Armandy.** 21 D. 1881. II, **12**, 1190 (**27**, 240).
grape cake. **Giussani e Jelmoni.** 31 Mr. 1857. (**1**, 365.)* (*Sardinia.*)
grape refuse. **de Simone.** 15 Ag. 1872. II, **3**, 372 (**12**, 272), pl. 94.
hydrocarbons. **Biseo.** 15 O. 1875. II, **6**, 536 (**16**, 304), pl. 130.
— **Ribighini.** 25 My. 1878. II, **9**, 332 (**20**, 187), pl. 88.
lupine. **Montagna.** 22 My. 1874. II, **5**, 232 (**14**, 341).

DISTILLING—continued.
mineral oil. **Boyd.** 14 Je. 1877. II, **8**, 338 (**18**, 428), pl. 93.
oils. **Botteri.** 31 Mr. 1857. (**1**, 346).* (*Sardinia.*)
petroleum. **Biseo.** 18 My. 1877. II, **8**, 279 (**18**, 369), pl. 75.
refuse converting into fertilizer and feed. **Cordiglia.** 14 My. 1880. II, **11**, 302 (**23**, 403). Ad. **12**, 215 (**25**, 265).
refuse rentilizing. **Corridi.** 31 Ag. 1881. II, **12**, 801 (**26**, 351), pl. 210. Ad. **12**, 929 (**26**, 479).
register. **Wedelin.** 15 Mr. 1877. II, **8**, 122 (**18**, 212), pls. 32, 33.
saccharifying refuse. **Palmeri.** 28 S. 1870. II, **1**, 304 (**10**, 304).
salt water. **Cardinal.** 10 F. 1865. I, **2**, 49 (**6**, 33), pl. 9.
sewage. **Chapusot.** 19 Ap. 1872. II, **3**, 154 (**12**, 54), pl. 46.
starch. **Leconte.** 8 Ap. 1872. II, **3**, 127 (**12**, 27).
steam. **Cacciani.** 31 Mr. 1856. (**1**, 147.)* (*Sardinia.*)
treating grain for. **Wassmus.** 20 N. 1871. II, **2**, 413 (**11**, 335).
wood. **Parish.** 15 O. 1873. II, **4**, 505 (**13**, 485), pl. 144. Ad. **5**, 164 (**14**, 273).
DIVING apparatus. **Tasker.** 24 D. 1880. II, **11**, 900 (**25**, 1), pl. 257.
bell. **Toselli.** 26 Je. 1871. II, **2**, 193 (**11**, 115), pl. 42.
— **Viotti.** 31 Mr. 1864. (**4**, 203.)* 16 Mr. 1864. I, **1**, 65 (**5**, 1), pl. 1.
DIVINING ROD. **Muscarello.** 31 D. 1878. I, **9**, 818 (**21**, 173), pl. 247. Ad. **10**, 573 (**22**, 273), pl. 159.
DOCK. **Homersham.** 30 S. 1859. (**2**, 276.)* (*Sardinia.*)
Labat. 30 Je. 1861. (**3**, 50.)*
Lungley. 31 D. 1857. (**1**, 499.)* (*Sardinia.*)
dry. **Breysse.** 20 My. 1864. I, **1**, 264 (**5**, 200), pl. 25.
— **Chiavacci.** 26 Ja. 1854. 63.* (*Sardinia.*)
— **Robertson.** 30 Je. 1862. (**3**, 265.)*
drying boat. **Strudthoff.** 24 D. 1872. II, **3**, 565 (**12**, 465), pls. 137–139.
floating. **Clark e Standfield.** 10 O. 1874. II, **5**, 472 (**15**, 81), pls. 109, 110.
— **Clark e Standfield.** 30 Ap. 1875. II, **6**, 207 (**15**, 475) pls. 42, 43.
— **Janicki.** 22 Ap. 1871. II, **2**, 105 (**11**, 27), pl. 19.
— **Valle.** 31 Mr. 1861. (**2**, 483.)*
— **Westerman.** 30 S. 1862. (**3**, 358.)*
— **Westerman.** 30 S. 1862. (**3**, 359.)*
— dry. **Riegler.** 5 D. 1867. I, **4**, 386 (**8**, 27), pl. 117.
— — **Westerman.** 31 Jl. 1869. I, **6**, 303 (**9**, 319), pl. 102.
DOOR. *See also* Carriage.
Invitti fratelli. 15 Mr. 1878. II, **9**, 116 (**19**, 471), pl. 32. Ad. **9**, 251 (**20**, 106), pl. 64.
Invitti fratelli. 9 Mr. 1882. II, **13**, 178 (**27**, 450), pl. 51.
Morino. 6 Ja. 1855. 107.* (*Sardinia.*)
closing apparatus. **Gazzotti.** 23 Je. 1874. II, **5**, 301 (**14**, 410), pl. 72.
fastener. **Colombani.** 12 Mr. 1874. II, **5**, 92 (**14**, 201), pl. 19.
DOUBLING AND TWISTING MACHINE. **Angelino.** 1 Mr. 1869. I, **6**, 72 (**9**, 88), pl. 21.
DOUGH coloring. **Belleno.** 31 D. 1863. (**4**, 201.)*
— **Cartri.** 31 Mr. 1861. (**2**, 497.)* Ad. **1**, 92.
— **Ceccarelli.** 31 D. 1863. (**4**, 202.)*
— **Pardi.** 31 Mr. 1861. (**2**, 495.)*
— compound. **Ceccarelli e Montano.** 30 S. 1861. (**3**, 142.)*
— — **Russo.** 30 Je. 1860. (**2**, 386). Ad. (**2**, 68.) (**1**, 84.)* (*Sardinia.*)
— — **Serassio.** 31 Mr. 1863. (**3**, 470)*—Ex. I, **1**, 92, (**5**, 28).
cutter. **Bianchi.** 23 Ja. 1875. II, **6**, 35 (**15**, 303), pl. 9.
— **Gazzolo.** 31 D. 1863. (**4**, 130.)*
drier. **Stuky.** 24 F. 1882. II, **13**, 130 (**27**, 402), pl. 40.
kneader. **Barthe.** 6 D. 1881. II, **12**, 1072 (**27**, 122), pl. 294.
— **Bojardi.** 13 Ap. 1869. I, **6**, 125 (**9**, 141), pl. 36.
— **Bottene.** 18 Ag. 1875. II, **6**, 436 (**16**, 204), pl. 101.
— **Buogo.** 30 Je. 1859. (**2**, 240.)* (*Sardinia.*)
— **Capuozzo.** 8 Mr. 1881. II, **12**, 168 (**25**, 218), pl. 41.
— **Chiabotto.** 12 Mr. 1870. II, **1**, 90 (**10**, 90), pl. 19.
— **Chiabotto.** 26 Ag. 1871. II, **2**, 283 (**11**, 205), pl. 63—Ex. **5**, 420 (**15**, 29). Ad. **9**, 267 (**20**, 122), pl. 73.

DOUGH kneader—continued.
— **Chiabotto.** 15 Jl. 1881. II, **12**, 627 (**26**, 177), pl. 152.
— **Chiris.** 31 Ja. 1873. II, **4**, 45 (**13**, 25), pl. 1.
— **Costa.** 15 Mr. 1878. II, **9**, 124 (**19**, 479), pl. 33.
— **Edwards.** 15 D. 1871. II, **2**, 450 (**11**, 375), pl. 96—Ex. **4**, 16 (**12**, 496).
— **Fiechter de Beauvernet.** 21 My. 1879. II, **10**, 298 (**21**, 498), pl. 82.
— **Fiechter de Beauvernet.** 20 N. 1880. II, **11**, 820 (**24** 421), pl. 233.
— **Giordano.** 10 Ag. 1881. II, **12**, 732 (**26**, 282), pl. 188.
— **Girardi fratelli e Bertinetti.** 31 Mr. 1882. II, **13**, 263 (**28**, 135), pl. 72.
— **Gondolo.** 30 Je. 1861. (**3**, 83.)* Ad. I, **1**, 240 (**5**, 176). pl. 22—Ex. **1**, 119 (**5**, 55).
— **Groppo.** 6 Ag. 1880. II, **11**, 539 (**24**, 140), pl. 150.
— **Groppo.** 27 O. 1881. II, **12**, 963 (**27**, 13), pl. 254.
— **Kravagna.** 16 Ag. 1879. II, **10**, 539 (**22**, 239), pl. 154.
— **Kravagna.** 10 N. 1880. II, **11**, 794 (**24**, 395), pl. 228—Ex. **12**, 1222 (**27**, 272).
— **Lenoir.** 31 Mr. 1865. I, **2**, 115 (**6**, 99), pl. 27.
— **Lesobre.** 31 Ag. 1876. II, **7**, 429 (**17**, 381), pl. 107.
— **Maraucci.** 4 N. 1871. II, **2**, 392 (**11**, 314), pl. 84.
— **Meneguzzi.** 15 Je. 1878. II, **9**, 373 (**20**, 228), pl. 105. Ad. **10**, 373 (**22**, 73), pl. 107.
— **Meneguzzi.** 30 Ap. 1881. II, **12**, 388 (**25**, 483), pl. 90.
— **Pauzat e Villevieille** 12 Jl. 1879. II, **10**, 469 (**22**, 169), pl. 131.
— **Pfleiderer.** 31 Ja. 1880. II, **11**, 49 (**23**, 150), pls. 15, 16—Ex. **12**, 191 (**25**, 241).
— **Pojero.** 16 S. 1870. II, **1**, 354 (**10**, 354), pl. 91.
— **Pons.** 11 Ja. 1876. II, **7**, 3 (**16**, 455), pl. 1—Ex. **9**, 835 (**21**, 190).
— **Praghi.** 5 Je. 1877. II, **8**, 311 (**18**, 401), pl. 85—Ex. **9**, 448 (**20**, 303).
— **Richelmi e Rocca.** 30 S. 1858. (**2**, 117)—Ex. (**1**, 30). Ad. (**1**, 54).* (*Sardinia.*)
— **Rieumes.** 10 F. 1871. II, **2**, 30 (**10**, 452).
— **Sagnes.** 15 Ap. 1874. II, **5**, 167 (**14**, 276), pl. 38.
— **Sézille.** 31 Mr. 1863. (**3**, 493.)*
— **Skoda.** 23 Jl. 1881. II, **12**, 671 (**26**, 221), pl. 173.
— **Stevens.** 30 S. 1863. (**4**, 79.)*
— and cutter. **Besaccia.** 30 Mr. 1871. II, **2**, 80 (**11**, 2), pl. 13.
— — **Molini.** 30 S. 1863. (**4**, 62)*—Ex. I, **3**, 205 (**7**, 31); **6**, 331 (**9**, 347).
— and oven. **Rescalli.** 30 Ap. 1860.* (*Austria.*)
mixer. **Bégué.** 12 Je. 1864. I, **1**, 307 (**5**, 243), pl. 31—Ex. **4**, 218 (**7**, 358).
— **Canham.** 10 O. 1864. I, **1**, 471 (**5**, 408), pl. 54.
— **Masera.** 18 Ap. 1877. II, **8**, 205 (**18**, 295), pl. 57—Ex. **11**, 524 (**24**, 125).
mixing compound. **Bèque.** 14 My. 1874. II, **5**, 220 (**14**, 329).
press. **Edant.** 25 Mr. 1879. II, **10**, 148 (**21**, 348), pl. 51.
— **Long et fils.** 6 Ag. 1878. II, **9**, 489 (**20**, 344), pl. 150.
— **Henry.** 4 S. 1875. II, **6**, 465 (**16**, 233), pl. 108.
— **Pagliero fratelli e Ferraris.** 26 Ap. 1879. II, **10**, 238 (**21**, 438), pl. 68.
— **Pagliero, Maggi e Maggi.** 6 Ag. 1878. II, **9**, 501 (**20**, 356), pl. 153.
— **Tobler.** 18 O. 1878. II, **8**, 636 (**20**, 491), pl. 198.

DOVETAIL CUTTER. **Armstrong.** 2 N. 1867. I, **4**, 358 (**7**, 499), pl. 101.

DOWN FABRIC. **Girrès.** 9 Jl. 1879. II, **10**, 448 (**22**, 148), pl. 126.

DRAIN pipe machine. **Bizot.** 30 Je. 1858. (**2**, 103.)* (*Sardinia.*)
pipe molding machine. **Marechal.** 31 D. 1857(?). (**1**, 314.)* (*Sardinia.*)

DRAINAGE. **Chadwick.** 29 O. 1872. II, **3**, 488 (**12**, 388), pl. 117.
Laurenzana 12 D. 1876. II, **7**, 589 (**18**, 42), pl. 152.
Pinedo e Raimondi. 8 My. 1877. II, **8**, 245 (**18**, 335), pl. 70.
Shones. 28 My. 1881. II, **12**, 445 (**25**, 495), pl. 113.
explosive. **Chonet.** 18 My. 1876. II, **7**, 245 (**17**, 197).
land. **Muscella.** 21 N. 1878. II, **9**, 718 (**21**, 73), pl. 219.
machine. **Moro.** 31 Mr. 1868. I, **5**, 73 (**8**, 143), pl. 18.
rice-field. **Bizot.** 30 D. 1856. (**1**, 309.)* (*Sardinia.*)

DRAWERS, men's. **Della Bona.** 24 Ja. 1868. I, **5**, 11 (**8**, 81), pl. 4.

DRAWING. **Martini e Comp.** 9 N. 1881. II, **12**, 990 (**27**, 40), pl. 267.
apparatus. **Hirsch.** 20 N. 1879. II, **10**, 777 (**22**, 477), pl. 214.
instrument. **Fresco.** 3 My. 1879. II, **10**, 265 (**21**, 465), pl. 74.
— parallel lines. **Wallegg e Hirsch.** 20 F. 1880. II, **11**, 86 (**23**, 187), pl. 30—Ex. **12**, 254 (**25**, 304).

DREDGE. *See also* Coral.
Ball. 30 Ag. 1879. II, **10**, 585 (**22**, 285), pl. 161.
Bazin. 9 Ap. 1877. II, **8**, 180 (**18**, 270), pls. 48, 49.
Buquoy. 7 Jl. 1873. II, **4**, 326 (**13**, 306), pl. 86.
Cardelli. 1 F. 1872. II, **3**, 31 (**11**, 431), pl. 9.
Couvreux. 29 Jl. 1874. II, **5**, 361 (**14**, 470), pl. 82.
Davis. 14 O. 1880. II, **11**, 709 (**24**, 310), pl. 208.
Delorenzi. 24 Mr. 1877. II, **8**, 143 (**18**, 233), pls. 41, 42.
Gheebrant. 19 Je. 1865. I, **2**, 174 (**6**, 158), pl. 49.
Moreath. 5 Je. 1869. II, **6**, 224 (**9**, 240), pl. 73—Ex. II, **1**, 268 (**10**, 268).
Musciacco. 12 S. 1865. I, **2**, 237 (**6**, 221), pl. 61.
Pattison. 27 Je. 1872. II, **3**, 283 (**12**, 183), pl. 74.
Vergniais. 24 D. 1866. I, **3**, 309 (**7**, 135), pl. 87.
cable transmission. **Nepveu.** 12 S. 1865. I, **2**, 239 (**6**, 223).
steam. **Larmanjat.** 30 Je. 1863. (**4**, 26.)*

DRESSING-CASE. **Gringmuth.** 30 Ap. 1878. II, **9**, 259 (**20**, 114), pl. 66.

DRIER. *See also* Cloth, Cloth finishing, Clothes, Dough, Flour, Fruit, Fuel, Grain, Hydraulic press, Lignite, Olivehusk, Paint, Paper, Peat, Silk cocoon, Soap, Sugar, Tan, Tannin, Textile, Thread, Vegetable, Wash, Wool.
Betti. 31 D. 1863. (**4**, 123)*—Ex. I, **3**, 190 (**7**, 16), II, **1**, 10 (**10**, 10).
Gibbs e Borwick. 28 Ag. 1872. II, **3**, 389 (**12**, 289), pl. 97.
Ligny. 28 Mr. 1873. II, **4**, 153 (**13**, 133), pl. 44—Ex. **10**, 4 8 (**22**, 188).
Rossi e Comp. 31 Jl. 1873. II, **4**, 368 (**13**, 348), pl. 99.
Theisen. 16 Jl. 1881. II, **12**, 632 (**26**, 182), pl. 154.
Vicari. 14 D. 1881. II, **12**, 1097 (**27**, 147), pl. 296.
Zboril. 20 Ag. 1874. II, **5**, 414 (**15**, 23), pl. 97.
vegetable. **Massarolo fratelli.** 6 D. 1879. II, **10**, 103 (**23**, 3), pl. 227.

DRILL. *See also* Air, Brick, Hydraulic, Metal, Ordnance, Ratchet, Rock, Steam rock.
bow. **Caillet.** 31 Mr. 1864. (**4**, 184.)*
ratchet. **Baecker.** 20 O. 1877. II, **8**, 591 (**19**, 181), pl. 146. Add. **8**, 642 (**19**, 642), pl. 169.

DRILLING. **Trevisan.** 27 Je. 1876. II, **7**, 307 (**17**, 259). Add. **7**, 578 (**18**, 31) pl. 151.
machine. **Tardy.** 7 Jl. 1876. II, **7**, 327 (**17**, 279), pl. 77.

DRUM. **de Toni.** 24 D. 1880. II, **11**, 893 (**24**, 494), pl. 257.
skin stretching. **Sax.** 31 Mr. 1863. (**3**, 446)*—Ex. I, **1**, 160 (**5**, 96); **1**, 193 (**5**, 129); **2**, 121 (**6**, 105); **3**, 108 (**6**, 434).
tuning arrangement. **Santucci.** 30 S. 1879. II, **10**, 656 (**22**, 356), pl. 177.

DRYING compound. **Zigliare.** 30 S. 1856. (**1**, 229.)* (*Sardinia.*)
furnace. **Monti e Comp.** 14 My. 1873. II, **4**, 229 (**13**, 209), pl. 73.

DYE, black, daphne onidium. **Bolognari.** 25 Ap. 1850. 6.* (*Sardinia.*)
extracting. **Crovo.** 16 S. 1854. 103.* (*Sardinia.*)
— **Kohlrausch.** 8 Mr. 1881. II, **12**, 169 (**25**, 219).
— from chestnut wood. **Ponzone fratelli, Odasso ed Aprile.** 16 My. 1870. II, **1**, 205 (**10**, 205), pl. 50.
— — **Vita.** 25 S. 1871. II, **2**, 324 (**11**, 246).
wood pulverizer. **Sachsenberg e Brueckner.** 3 Je. 1876. II, **7**, 267 (**17**, 219), pl. 63.
wood triturator. **Clementi.** 7 Jl. 1869. I, **6**, 255 (**9**, 271), pl. 74.

DYEING. **Dawson e Slater.** 10 O. 1874. II, **5**, 476 (**15**, 85), pl. 113.
Descat frères et Selosse. 15 O. 1875. II, **6**, 542 (**16**, 310).
Holliday e Holliday. 15 Mr. 1881. II, **12**, 196 (**25**, 246).
Meda. 26 Ap. 1877. II, **8**, 229 (**18**, 319).
Mittler ed Enderlin. 10 Ag. 1881. II, **12**, 735 (**26**, 285), pl. 190.

DYEING—continued.
Scala. 28 Je. 1872. II, **3**, 287 (**12**, 187).
Vigoureux. 31 Mr. 1863. (**3**, 437.)*
apparatus. **Corron.** 27 Je. 1872. II, **3**, 279 (**12**, 179), pl. 74.
boiler. **Cerruti e Sella.** 25 S. 1880. II, **11**, 658 (**24**, 259), pl. 190.
compound. **McIlwrait.** 15 S. 1873. II, **4**, 444 (**13**, 424).
cotton in staple. **Fresia.** 14 Jl. 1864. I, **1**, 342 (**5**, 279).
economizing indigo. **Vautravers.** 30 S. 1856. (**1**, 222.)* (*Sardinia.*)
glove seams, machine. **Fouillon-Bordat et Cie.** 31 D. 1881. II, **12**, 1186 (**27**, 236), pl. 231.
silk. **Ermerins e Comp.** 24 Ap. 1882. II, **13**, 350 **28**, 122).
— wool, and cotton. **Marchi.** 22 Jl. 1867. I, **4**, 237 (**7**, 377).
skeins. **Corron.** 3 S. 1874. II, **5**, 431 (**15**, 40), pl. 102.
straw for paper-making. **Arcioni.** 21 Mr. 1865. I, **2**, 81 (**6**, 65).
stretcher. **Lyon.** 31 Jl. 1880. II, **11**, 527 (**24**, 128), pl. 148.
with asphodel. **Digeon e Goldsmith.** 27 My. 1873. II, **4**, 241 (**13**, 221).
wood, horn, bone, ivory. **Batonnier.** 31 Mr. 1881. II, **12**, 269 (**25**, 319).
wood, plaster, leather, etc. **Thimm.** 3 F. 1881. II, **12**, 63 (**25**, 113), pl. 18—Ex. **13**, 141 (**27**, 413).
wool blue. **Maistre.** 1 Je. 1868. I, **5**, 171 (**8**, 241).
DYNAMO-ELECTRIC MACHINE. **Biloret et Mora.** 16 O. 1880. II, **11**, 719 (**24**, 320), pl. 210.
Davis. 12 D. 1878. II, **9**, 763 (**21**, 118).
Dessaigne. 27 O. 1881. II, **12**, 957 (**27**, 7).
Edison. 10 My. 1880. II, **11**, 294 (**23**, 395), pl. 86.
Edison. 12 O. 1880. II, **11**, 706 (**24**, 307), pl. 205.
Edison. 29 Mr. 1881. II, **12**, 246 (**25**, 296), pl. 60.
Edison. 30 Jl. 1881. II, **12**, 703 (**26**, 253), pl. 179.
Edison. 30 Jl. 1881. II, **12**, 708 (**26**, 258), pl. 183.
Edison. 25 O. 1881. II, **12**, 954 (**27**, 4), pl. 257.
Edison. 31 O. 1881. II, **12**, 973 (**27**, 23), pl. 252.
Gramme e d'Ivernois. 30 Jl. 1870. II, **1**, 319 (**10**, 319), pl. 72—Ex. **2**, 251 (**11**, 173); **3**, 419 (**12**, 319); **8**, 553 (**19**, 143).
Gravier. 10 Ja. 1882. II, **13**, 1 (**27**, 273), pl. 1.
Griscom. 3 Mr. 1881. II, **12**, 156 (**25**, 206), pl. 40—Ex. **13**, 268 (**28**, 40).
Laing. 31 Ja. 1882. II, **13**, 82 (**27**, 354).
Lontin. 7 F. 1879. II, **10**, 54 (**21**, 254), pl. 18.
Maxim. 13 Ag. 1880. II, **11**, 543 (**24**, 144), pl. 150—Ex. **12**, 771 (**26**, 321).
Méritens. 24 D. 1878. II, **9**, 778 (**21**, 133), pl. 229.
Plebani. 10 My. 1880. II, **11**, 291 (**23**, 392), pl. 83.
Reese. 31 Ja. 1879. II, **10**, 24 (**21**, 224).
Siemens e Halske. 30 D. 1878. II, **9**, 812 (**21**, 167), pls. 241, 242.
Siemens et Halske. 27 D. 1881. II, **12**, 1177 (**27**, 227), pl. 330.
Siemens et Halske. 27 D. 1881. II, **12**, 1179 (**27**, 229), pls. 330, 331.
Société générale d'électricité (procédés Jablochkoff). 15 F. 1879. II, **10**, 73 (**21**, 273), pl. 21.
commutator. **Edison.** 23 Ag. 1881. II, **12**, 757 (**26**, 307), pl. 196.
current regulator. **Haddan.** 25 O. 1881. II, **12**, 943 (**26**, 493), pl. 250.
regulator. **de Khotinsky.** 29 Mr. 1882. II, **13**, 253 (**28**, 25), pl. 70.
DYNAMOMETER. **Rocco.** 17 S. 1875. II. **6**, 498 (**16**, 266), pl. 122.
Taverna. 30 Je. 1855. (**1**, 33.)* (*Sardinia.*)
EAR, artificial. **Giampietro.** 7 Ag. 1875. II, **6**, 406 (**16**, 174), pl. 91.
EARTH auger. **Foresti.** 26 Ag. 1871 II, **2**, 280 (**11**, 202), pl. 61.
— **Villar y Castropol.** 4 Jl. 1878. II. **9**, 417 (**20**, 272), pl. 123.
boring tool. **von Sparre.** 2 S. 1872. II, **3**, 395 (**12**, 295), pl. 102.
excavator. **Dunbar e Rushton.** 24 My. 1876. II, **7**, 261 (**17**, 213), pl. 62—Ex. **8**, 409 (**18**, 499).

EARTH—continued.
transporting apparatus for dredges. **Lavalley.** 9 S. 1869. I, **6**, 341 (**9**, 357), pl. 119.
working machine. **Maniquet et Soulier de Lagrange.** 31 Mr. 1856. (**1**, 144.)* (*Sardinia.*)
EARTH CLOSET. **Angiolini.** 22 Jl. 1870. II, **1**, 312 (**10**, 312), pl. 79—Ex. **2**, 101 (**11**, 23). Ad. **2**, 430 (**11**, 353), pl. 91.
— **Crawford.** 22 Jl. 1867. I, **4**, 240 (**7**, 380), pl. 74. Ad. **4**, 265 (**7**, 405), pl. 80.
— **Dellaghezza.** 6 D. 1879. II, **10**, 813 (**23**, 13), pl. 129.
— **Girdlestone.** 23 Mr. 1870. II, **1**, 117 (**10**, 117), pl. 25.
— **Girdlestone.** 23 Ja. 1871. II, **2**, 9 (**10**, 431), pl. 1—Ex. **2**, 36 (**10**, 458).
EASEL and seat. **Giosi.** 22 Ja. 1876. II, **7**, 32 (**16**, 484), pl. 8.
EATING-HOUSE signal. **Kaiserblüth.** 15 Je. 1878. II, **9**, 368 (**20**, 223), pl. 101.
ECCENTRIC, anti-friction. **Lowendahl, Gutmann e Scharfberg.** 16 O. 1878. II, **9**, 600 (**20**, 455), pl. 190.
toothed. **Moro, Benini e Colacicchi.** 28 Ag. 1871. II, **2**, 286 (**11**, 208), pl. 59.
EDUCATIONAL vade-mecum. **de Alberti.** 2 F. 1865. I, **2**, 38 (**6**, 22).
EGG-BOILER. **Predasi.** 10 F. 1872. II, **3**, 48 (**11**, 448), pl. 13.
EJECTOR. **Körting.** 17 S. 1875. II, **6**, 484 (**16**, 252), pls. 105, 106.
ELASTIC fabric manufacture. **Zonca.** 29 O. 1872. II, **3**, 490 (**12**, 390). Ad. **4**, 49 (**13**, 29).
ELBOW. *See* Pipe.
ELECTRIC accumulator discharge regulator. **de Kabath.** 24 S. 1881. II, **12**, 858 (**26**, 408), pl. 228.
alarm. **Basch.** 27 N. 1877. II, **8**, 671 (**19**, 261), pl. 178.
— **Basch et Pfeiffer.** 20 O. 1877. II, **8**, 614 (**19**, 204).
— **Mandroux e Bailey.** 28 O. 1878. II, **9**, 654 (**21**, 9), pl. 202.
— **Watkins.** 31 Ag. 1876. II, **7**, 436 (**17**, 388), pls. 108, 109.
annunciator. **Masbon et Balzac.** 30 Je. 1859. (**2**, 243.)* (*Sardinia.*)
— **Valperga.** 27 Ap. 1870. II, **1**, 176 (**10**, 176), pl. 44.
battery, galvanic. **Aymonnet.** 27 D. 1881. II, **12**, 1169 (**27**, 219), pl. 326.
— **Chutaux.** 17 Ap. 1875. II, **6**, 168 (**15**, 436), pl. 35.
— **Drivet.** 26 Jl. 1864. I, **1**, 373 (**5**, 310), pl. 67.
— **Figatner e Salimbene.** 29 Mr. 1872. II, **3**, 122 (**12**, 22).
— **Jablochkoff.** 16 My. 1878. II, **9**, 291 (**20**, 146), pl. 79.
— **Lacassagne et Thiers.** 30 Je. 1856. (**1**, 198.)* (*Sardinia.*)
— **MacCarty.** 15 S. 1879. II, **10**, 592 (**22**, 270), pl. 168.
— **Manuelli.** 21 Ap. 1876. II, **7**, 196 (**17**, 148), pl. 45.
— **Nyström.** 30 N. 1881. II, **12**, 1067 (**27**, 117), pl. 285.
— **Pavia.** 30 Je. 1858. (**2**, 91.)* (*Sardinia.*)
— **Pisoni.** 25 Ap. 1878. II, **9**, 226 (**20**, 81), pl. 55—Ex. **12**, 392 (**25**, 442). Ad. **12**, 393 (**25**, 443), pl. 96.
— **Ponci.** 31 Ja. 1876. II, **7**, 44 (**16**, 496).
— **Reynier.** 28 S. 1880. II, **11**, 667 (**24**, 268), pl. 194.
— **Riatti e Cabella.** 23 Ap. 1880. II, **11**, 247 (**23**, 348)—Ex. **12**, 741 (**26**, 291).
— **S. Azapis.** 13 Ag. 1880. II, **11**, 557 (**24**, 158).
— **Selmi.** 30 S. 1856. (**1**, 243.)* (*Sardinia.*)
— **Siegfried.** 19 Mr. 1881. II, **12**, 208 (**25**, 258), pl. 47.
— **Société anonyme La Force et la Lumière.** 29 Ap. 1881. II, **12**, 375 (**25**, 425), pl. 91.
— **Société universelle d'électricité Tommasi.** 14 My. 1880. II, **11**, 303 (**23**, 404), pl. 87.
— **Vavin, Grenet et de Fonvielle.** 30 S. 1857. (**1**, 451.) Ad. (**1**, 29).* (*Sardinia.*)
— **Verdeau.** 28 Ja. 1874. II, **5**, 30 (**14**, 139), pl. 3.
— **Vion.** 31 Mr. 1858. (**2**, 222.)* (*Sardinia.*)
— **Wilson.** 19 S. 1878. II, **9**, 567 (**20**, 422), pl. 174.
— cell. **Allemano.** 24 S. 1864. I, **1**, 439 (**5**, 376), pl. 48.
— — **Boulay.** 2 Ag. 1867. I, **4**, 253 (**7**, 393), pl. 76.
— — **Candido.** 10 Ag. 1868. I, **5**, 262 (**8**, 332), pl. 71.
— — **Leclanché.** 7 Ap. 1866. I, **3**, 90 (**6**, 416), pl. 30.
— — **Leclanché.** 20 D. 1866. I, **3**, 291 (**7**, 117), pl. 82.
— — multipolar. **Demarini.** 12 Ag. 1868. I, **5**, 286 (**8**, 356).
— continuous. **Aymonnet.** 27 D. 1881. II, **12**, 1170 (**27**, 220), pl. 326.

ELECTRIC battery, galvanic—continued.
— Daniel's. **Minotto**. 30 Je. 1862. (**3**, 247.) Ad. (**1**, 126)*—Ex. I, **1**, 75 (**5**, 11).
— lead. **Ubicini**. 9 Mr. 1876. II, **7**, 100 (**17**, 52).
— medical. **de Bruc**. 17 D. 1864. I, **1**, 521 (**5**, 458), pl. 83.
— portable. **Tirat**. 25 O. 1865. I, **2**, 281 (**6**, 265), pl. 75.
battery, secondary. **Faure**. 25 Mr. 1881. II, **12**, 228 (**25**, 278), pl. 55—Ex. **12**, 337 (**25**, 377).
— **de Kabath**. 24 S. 1881. II, **12**, 859 (**26**, 409), pl. 222. Ad. **13**, 110 (**27**, 382), pl. 33; **13**, 203 (**27**, 475).
— **de Meritens**. 23 Mr. 1882. II, **13**, 234 (**28**, 6), pl. 67.
— **Société anonyme La Force et la Lumière-Société générale d'électricité**. 16 Jl. 1881. II, **12**, 634 (**26**, 184).
— **Société universelle d'électricité Tommasi**. 30 N. 1881. III, **12**, 1056 (**27**, 106), pl. 288.
— **Swan**. 7 Mr. 1882. II, **13**, 160 (**27**, 432).
— **Volckmar**. 14 Ja. 1882. II, **13**, 27 (**27**, 299), pl. 6.
block signal. **Cerudini**. 27 Ap. 1878. II, **9**, 252 (**20**, 107), pl. 65.
bobbin. **Galvani**. 16 Mr. 1882. II, **13**, 197 (**27**, 469), pl. 53.
brake. **Achard**. 28 Ag. 1873. I, **4**, 418 (**13**, 398), pl. 111. Ad. **5**, 571 (**15**, 180), pl. 135.
— **Garau, Ticozzi e Comp.** 14 D. 1872. II, **3**, 547 (**12**, 447), pl. 132.
brush. **Imme**. 30 S. 1861. (**3**, 99.)*
cable. **Capuccio**. 31 D. 1858. (**2**, 191.)* (*Sardinia.*)
— submarine. **Tommasi**. 5 Ag. 1870. II, **1**, 322 (**10**, 322), pl. 82.
calcining. **Parigi**. 30 S. 1863. (**4**, 116.)*
car-brake. **Bartlet**. 23 Ap. 1873. II, **4**, 196 (**13**, 176), pl. 52.
— **Reese**. 31 Ja. 1879. II, **10**, 24 (**21**, 224).
— **Stanford e Milligan**. 20 My. 1880. II, **11**, 326 (**23**, 427), pl. 93.
carriage. **Sforza**. 24 S. 1881. II, **12**, 826 (**26**, 412), pl. 229—Ex. **13**, 358 (**28**, 130).
conductor. **Clark**. 30 Ja. 1882. II, **13**, 69 (**27**, 341), pl. 18.
— insulating. **Brooks**. 29 Ag. 1881. II, **12**, 780 (**26**, 330), pl. 200.
— manufacture. **Callender**. 27 F. 1882. II, **13**, 137 (**27**, 409).
current distribution. **Duprez e Carpentier**. 20 O. 1881. II, **12**, 927 (**26**, 477), pl. 247.
— **Edison**. 19 N. 1880. II, **11**, 813 (**24**, 414), pl. 235.
— **Edison**. 12 O. 1881. II, **12**, 916 (**26**, 466), pl. 245.
— **Fox**. 12 S. 1881. II, **12**, 815 (**26**, 365), pl. 216.
— **Gravier**. 27 D. 1881. II, **12**, 1181 (**27**, 231), pl. 332.
current meter. **Edison**. 23 My. 1881. II, **12**, 440 (**25**, 490), pl. 110.
— **Edison**. 15 Jl. 1881. II, **12**, 615 (**26**, 165), pl. 149.
explosive gas-engine. **Devaux**. 21 My. 1879. II, **10**, 290 (**21**, 453), pl. 79.
gearing. **Achard**. 30 D. 1864. I, **1**, 542 (**5**, 479), pl. 91.
generator. **Watson**. 30 Je. 1857. (**1**, 393.)* (*Sardinia.*)
— water-power. **Marco**. I, **3**, 143 (**6**, 469).
heating. **Davis**. 21 N. 1878. II, **9**, 714 (**21**, 69).
— **de Lodyguine**. 25 F. 1873. II, **4**, 99 (**13**, 79), pl. 26.
induction coil. **de Bruc**. 30 Je. 1860. (**2**, 395.)* (*Sardinia.*)
insulating compound. **Silver**. 30 D. 1864. I, **1**, 536 (**5**, 473).
light. **Avenarius**. 31 Ja. 1881. II, **12**, 51 (**25**, 101), pl. 10.
— **Bouliguine**. 21 D. 1881. II, **12**, 1132 (**27**, 182), pl. 312.
— **Bouteilloux e Laing**. 31 Ja. 1882. II, **3**, 83 (**27**, 355), pl. 26.
— **Brush**. 20 F. 1880. II, **11**, 75 (**23**, 176), pls. 26–28.
— **Brusotti**. 30 N. 1877. II, **8**, 692 (**19**, 282), pl. 184—Ex. **6**, 730 (**21**, 85).
— **Bureau**. 25 My. 1880. II, **11**, 345 (**23**, 446), pl. 97.
— **Calandri**. 15 S. 1879. II, **10**, 590 (**22**, 290), pl. 167.
— **Cruto**. 7 Mr. 1882. II, **13**, 167 (**27**, 439), pl. 45.
— **Edison**. 21 N. 1878. II, **9**, 717 (**21**, 72), pl. 217, 218.
— **Edison**. 23 Je. 1879. II, **10**, 388 (**22**, 88), pls. 112–115.
— **Edison**. 6 D. 1879. II, **10**, 804 (**23**, 4), pl. 227.
— **Edison**. 31 D. 1879. II, **10**, 894 (**23**, 94), pl. 249.

ELECTRIC light—continued.
— **Edison**. 28 Ap. 1880. II, **11**, 266 (**23**, 367), pl. 78.
— **Edison**. 6 N. 1880. II, **11**, 789 (**24**, 390), pl. 227.
— **Edison**. 19 My. 1881. II, **12**, 427 (**25**, 477), pl. 106.
— **Edison**. 29 Jl. 1881. II, **12**, 683 (**26**, 233), pl. 175.
— **Edison**. 30 Jl. 1881. II, **12**, 701 (**26**, 251), pl. 178.
— **Edison**. 9 N. 1881. II, **12**, 1004 (**27**, 54), pl. 273.
— **Edison**. 9 N. 1881. II, **12**, 1005 (**27**, 55), pl. 274.
— **Fox**. 31 Ag. 1881. II, **12**, 790 (**26**, 340), pl. 208.
— **Fuller**. 31 Ja. 1879. II, **10**, 41 (**21**, 241), pl. 13.
— **Fyfe**. 23 Ap. 1881. II, **12**, 357 (**25**, 407), pl. 87.
— **Gatehouse**. 21 Ap. 1882. II, **13**, 346 (**28**, 118), pl. 90.
— **Gaulard et Gibbs**. 7 Mr. 1882. II, **13**, 159 (**27**, 431), pl. 44.
— **Gerard**. 11 Mr. 1880. II, **11**, 135 (**23**, 236), pl. 45.
— **Golfarelli**. 31 Jl. 1880. II, **11**, 525 (**24**, 126), pls. 146, 147.
— **Gordon**. 27 Ag. 1880. II, **11**, 588 (**24**, 189).
— **Gülcher**. 26 N. 1881. II, **12**, 1043 (**27**, 93), pl. 283.
— **Harrison**. 12 Ap. 1880. II, **11**, 216 (**23**, 317), pl. 63.
— **Jablochkoff**. 25 My. 1877. II, **8**, 287 (**18**, 377), pl. 77.
— **Jablochkoff**. 10 N. 1877. II, **8**, 647 (**19**, 237), pl. 169.
— **Jamin**. 9 Je. 1879. II, **10**, 445 (**22**, 145), pl. 124. Ad. **10**, 670 (**22**, 370), pl. 182; **11**, 783 (**24**, 384), pl. 226; **11**, 309 (**23**, 410), pl. 89.
— **de La Roche**. 24 D. 1881. II, **12**, 1148 (**27**, 198), pl. 313.
— **Lodyguine e Compagnie d'éclairage électrique de St.-Pétersbourg**. 25 F. 1873. II, **4**, 98 (**13**, 78), pl. 26.
— **Marcus**. 16 N. 1878. II, **9**, 698 (**21**, 53), pl. 213.
— **Maxim**. 6 S. 1880. II, **11**, 623 (**24**, 224), pl. 179.
— **Maxim**. 26 N. 1880. II, **11**, 840 (**24**, 441), pl. 246.
— **Maxim**. 29 Ja. 1881. II, **12**, 32 (**25**, 82), pl. 7.
— **Maxim**. 27 O. 1881. II, **12**, 962 (**27**, 12), pl. 259.
— **de Mersanne**. 27 My. 1874. II, **5**, 248 (**14**, 357), pls. 57, 58.
— **de Mersanne**. 4 S. 1875. II, **6**, 474 (**16**, 242), pl. 111.
— **Million**. 30 Jl. 1881. II, **12**, 705 (**26**, 255), pl. 180.
— **Nichols**. 29 Ja. 1881. II, **12**, 34 (**25**, 84), pl. 6.
— **Nichols**. 12 O. 1881. II, **12**, 902 (**26**, 452), pl. 236.
— **Rapieff**. 30 S. 1878. II, **9**, 595 (**20**, 450), pls. 185–188.
— **Sautter, Lemonier et Cie**. 23 Je. 1879. II, **10**, 387 (**22**, 87), pls. 110, 111.
— **Sawyer e Man**. 25 Ja. 1879. II, **10**, 18 (**21**, 218), pl. 6.
— **Siemens et Halske**. 30 Ag. 1879. II, **10**, 583 (**22**, 283), pl. 165.
— **Société anonyme La Force et la Lumière, Société générale d'électricité**. 30 Ap. 1881. II, **12**, 345 (**25**, 435), pl. 95.
— **Société générale d'électricité (procédés Jablochkoff)**. 18 Ap. 1879. II, **10**, 228 (**21**, 428), pl. 59.
— **Société générale d'électricité (procédés Jablochkoff)**. 11 Mr. 1880. II, **11**, 137 (**23**, 238), pl. 48.
— **Société universelle d'électricité Tommasi**. 10 My. 1880. II, **11**, 299 (**23**, 400), pl. 88.
— **Somzée**. 25 O. 1881. II, **12**, 948 (**26**, 498), pl. 254.
— **Swan**. 31 D. 1880. II, **11**, 926 (**25**, 27), pl. 262—Ex. **12**, 1194 (**27**, 244).
— **Tabourin**. 31 Mr. 1881. II, **12**, 257 (**25**, 307), pl. 62—Ex. **13**, 273 (**27**, 495).
— **Talleyrand de Périgord de Sagan e MacCarty**. 11 F. 1879. II, **10**, 69 (**21**, 269), pl. 20.
— **Vianisi**. 30 D. 1878. II, **9**, 806 (**21**, 161).
— **Werdermann**. 26 Ap. 1879. II, **10**, 245 (**21**, 445), pl. 72. Ad. **10**, 783 (**22**, 483), pl. 215.
— arc. **Edison**. 23 Jl. 1881. II, **12**, 662 (**26**, 212), pl. 150.
— burner. **de Méritens et Cie**. 26 Jl. 1879. II, **10**, 499 (**22**, 199), pl. 138.
— incandescent. **Concornotti**. 12 Jl. 1879. II, **10**, 464 (**22**, 164), pl. 130. Ad. **10**, 497 (**22**, 197), pl. 139.
— — **de Khotinsky**. 31 D. 1881. II, 1193 (**27**, 243), pl. 335.
— — **Reynier**. 28 O. 1878. II, **9**, 658 (**21**, 13), pl. 203—Ex. **13**, 89 (**27**, 361).
— — **Swan**. 31 Mr. 1882. II, **13**, 270 (**28**, 42).
— regulator. **Gerard-Lescuyer**. 19 Je. 1880. II, **11**, 408 (**24**, 9), pl. 123. Ad. **12**, 298 (**25**, 340), pl. 69.

ELECTRIC light regulator—continued.
— — **Lanzone.** 27 S. 1878. II, **9**, 591 (**20**, 446), pl. 185.
— — **Lontin e Comp.** 7 F. 1879. II, **10**, 53 (**21**, 253), pl. 17.
— — **Mandon.** 10 Je. 1880. II, **11**, 376 (**23**, 477), pl. 107.
— — **Million.** 9 Ag. 1879. II, **10**, 522 (**22**, 222), pl. 149.
— submarine. **Chauvin, Goizet e Aubry.** 29 Jl. 1875. II, **6**, 397 (**16**, 165), pl. 86.
lighting. **Pannilini.** 19 Mr. 1873. II, **4**, 124 (**13**, 104).
motor. **Armei e Pongelli.** 31 Mr. 1880. II, **11**, 187 (23, 288), pl. 58.
— **Edison.** 25 O. 1881. II, **12**, 954 (**27**, 4), pl. 257.
— **Farmer.** 16 Jl. 1881. II, **12**, 638 (**26**, 188), pls. 160, 161.
— **de Fonvielle et Grenet.** 30 S. 1855. (**1**, 118.)* (*Sardinia.*)
— **Vavin et Grenet.** 31 D. 1858. (**2**, 185.)* (*Sardinia.*)
— commutator. **Edison.** 23 Ag. 1881. II, **12**, 757 (**26**, 307), pl. 196.
organ. **Schmoele e Mols.** 29 N. 1881. II, **12**, 1044 (**27**, 94), pls. 286, 287.
— playing. **Bommelaer.** 31 D. 1881. II, **12**, 1191 (**27**, 241), pl. 334.
railway. **Gasca.** 13 Jl. 1880. II, **11**, 484 (**24**, 85), pl. 140.
— **Ivaldi e Gasca.** 27 Mr. 1882. II, **13**, 243 (**28**, 15), pl. 62.
— **Sforza.** 9 Ag. 1879. II, **10**, 523 (**22**, 223), pl. 150.
— **Siemens e Halske.** 12 O. 1881. II, **12**, 891 (**26**, 441), pls. 239, 240.
— alarm. **Cattaneo.** 9 F. 1881. II, **12**, 71 (**25**, 121), pl. 20.
— signal. **Bachrich.** 20 S. 1880. II, **11**, 632 (**24**, 233), pl. 181.
— — **Brunius.** 5 Ap. 1876. II, **7**, 163 (**17**, 115), pl. 40.
— — **Fania.** 31 Jl. 1877. II, **8**, 452 (**19**, 42), pl. 111.
— — **Giorda.** 10 Jl. 1873. II, **4**, 332 (**13**, 312), pl. 88.
— — **Giorda.** 13 N. 1880. II, **11**, 801 (**24**, 402), pl. 232.
— — **Hipp.** 30 S. 1863. (**4**, 12)*—Ex. I, **1**, 479 (**5**, 416).
— — **Leblanc et Loiseau.** 20 Ja. 1880. II, **11**, 24 (**23**, 125), pl. 10.
— — **Leblanc et Loiseau.** 31 Mr. 1881. II, **12**, 273 (**25**, 323), pl. 65.
— — **Vincenzi.** 30 S. 1861. (**3**, 110)* Ex. I, **1**, 247, 484 (**5**, 183, 421).
— — **Von Troet.** 26 Ag. 1881. II, **12**, 767 (**26**, 317), pl. 200. Ad. **12**, 1107 (**27**, 157), pl. 298.
— switch signal. **Cattaneo.** 15 Je. 1878. II, **9**, 363 (**20**, 218), pl. 103. Ad. **9**, 531 (**20**, 386), pl. 162.
— train register. **Dénéchaud et Chapa.** 30 S. 1860. (**2**, 441.)* (*Sardinia.*)
— train stopping. **Shaffer.** 21 D. 1881. II, **12**, 1120 (**27**, 170), pl. 311.
regulator. **Cance.** 25 O. 1881. II, **12**, 951 (**27**, 1), pl. 256.
signal. **Abribat.** 29 O. 1877. II, **8**, 624 (**19**, 214), pl. 453.
— **Grassi et Beux.** 20 Mr. 1882. II, **13**, 206 (**27**, 478), pl. 57.
— **Shaffer.** 21 D. 1881. II, **12**, 1120 (**29**, 170), pl. 311.
steering apparatus. **Caselli.** 16 N. 1878. II, **9**, 691 (**21**, 46), pls. 211–213
synchronizing. **Siemens et Halske.** 27 D. 1881. II, **12**, 1178 (**27**, 228), pl. 329.
traction. **Chrétien et Félix.** 7 Je. 1879. II, **10**, 344 (**22**, 44), pl. 98.
transportation. **Minotto.** 31 D. 1862. (**3**, 193.)*
way. **Parod.** 29 D. 1879. II, **10**, 858 (**23**, 58), pl. 244.
ELECTRO-COPPERING type, etc. **Pellas.** 2 Je. 1868. I, **5**, 192 (**8**, 262).
ELECTRO-DYNAMIC MACHINE. **Chirio.** 7 My. 1875. II, **6**, 231 (**15**, 499), pl. 48.
Chameroy. 20 D. 1879. II, **10**, 846 (**23**, 46), pl. 240.
Chutaux. 30 Mr. 1875. II, **6**, 143 (**15**, 411), pl. 29.
Edison. 12 O. 1880. II, **11**, 706 (**24**, 307), pl. 205.
Elmore. 20 S. 1880. II, **11**, 649 (**24**, 250), pl. 187. Ad. **12**, 759 (**26**, 309), pl. 197.
Giadresco. 30 Jl. 1870. II, **1**, 316 (**10**, 316), pl. 81.
ELECTRO-GILDING. **Moore.** 10 D. 1864. I, **1**, 514 (**5**, 451).
and silvering. **Boggio.** 31 Mr. 1858. (**2**, 62.)* (*Sardinia.*)
— **Pellas.** 5 Je. 1873. II, **4**, 267 (**13**, 247).
ELECTROLYSIS, zinc, lead, silver and copper ores. **Parodi e Mascazzini.** 20 Mr. 1880. II, **11**, 161 (**23**, 262).
ELECTRO-MAGNET. **Allemano e Capuccio.** 30 Je. 1861. (**3**, 90.)*
Camacho. 30 Ap. 1875. II, **6**, 206 (**15**, 474), pl. 44.
Chambrier. 18 N. 1879. II, 10, 754 (**22**, 454), pl. 206.
Gravier. 27 D. 1881. II, **12**, 1180 (**27**, 230), pl. 331.
Malkoff et de Kabath. 9 N. 1881. II, **12**, 1003 (**27**, 53), pl. 271.
ELECTRO-MAGNETIC APPARATUS. **Carosie.** 9 Je. 1855. (**1**, 77.)* (*Sardinia.*)
Clerici. 18 D. 1865. I, **2**, 335 (**6**, 319), pl. 105.
Moore. 15 Mr. 1866. I, **3**, 75 (**6**, 401).
ELECTRO-METAL COATING. **Bonaz.** 14 O. 1879. II, **10**, 684 (**22**, 384).
Krupp. 25 Mr. 1879. II, **10**, 149 (**21**, 349).
Weston. 24 D. 1878. II, **9**, 801 (**21**, 156).
ships' bottoms. **Oudry.** 30 S. 1856. (**1**, 247.)* (*Sardinia.*)
ELECTROMETER. **Edison.** 26 N. 1880. II, **11**, 839 (**24**, 440), pl. 246 *bis*.
Edison. 30 N. 1881. II, **12**, 1055 (**27**, 105), pl. 288.
ELECTRO-NICKELING. **Garneri.** 12 N. 1879. II, **10**, 731 (**22**, 431).
Norris. 21 Mr. 1870. II, **1**, 96 (**10**, 96).
Weston. 24 D. 1878. II, **9**, 801 (**21**, 156).
ELECTRO-PLASTIC COPPER STATUARY. **Boggio.** 30 Je. 1860. (**2**, 396.)* (*Sardinia.*)
ELECTROPLATING. **Selmi e Pennoncelli.** 31 Mr. 1858. (**2**, 53.)* (*Sardinia.*)
ELECTRO-SILVERING. **Moore.** 14 Jl. 1864. I, **1**, 345 (**5**, 282), pl. 60.
ELECTROTYPING. **de Lorenzi.** 25 Je. 1874. II, **5**, 309 (**14**, 418)—Ex. **6**, 309 (**16**, 77).
matrix. **Macdougall, Adie, Adams e Fleming.** 31 Ja. 1881. II, **12**, 57 (**25**, 107), pls. 13–16.
ELEVATOR. *See also* Grain, Hydraulic, Hydraulic water, Liquid, Passenger and freight, Pneumatic, Water.
Bunster. 22 F. 1873. II, **4**, 87 (**13**, 67), pl. 23.
Salvadori. 28 My. 1881. II, **12**, 441 (**25**, 491), pl. 111.
Unruh. 28 My. 1881. II, **12**, 459 (**26**, 9), pl. 117.
balloon. **Raydt.** 30 N. 1878. II, **9**, 725 (**21**, 80), pl. 220.
building materials. **Bernardi.** 9 F. 1853. 42.* (*Sardinia.*)
passenger and freight. **Agudio.** 9 F. 1867. I, **4**, 47 (**7**, 188), pl. 15.
portable. **de Simoni.** 6 Jl. 1877. II, **8**, 376 (**18**, 466), pl. 104.
safety catch. **Marzari.** 24 D. 1880. II, **11**, 892 (**24**, 493), pl. 257—Ex. **12**, 1208 (**27**, 258).
EMBALMING AND MUMMIFYING. **Audigier.** 14 My. 1864. I, **1**, 234 (**5**, 170).
EMBROIDERING MACHINE. **Cornely.** 11 Je. 1873. II, **4**, 268 (**13**, 248), pl. 70.
Cornely. 10 S. 1873. II, **4**, 430 (**13**, 410), pl. 114.
Cornely. 29 Ja. 1881. II, **12**, 36 (**25**, 86), pl. 9.
François. 30 D. 1860. (**2**, 460.)* (*Sardinia.*)
Gritzner et Cie. 30 S. 1879. II, **10**, 651 (**22**, 351), pls. 179, 180.
Hart. 18 O. 1878. II, **9**, 641 (**20**, 496), pl. 195.
Michelet e Bourget. 15 D. 1874. II, **5**, 604 (**15**, 213), pl. 147. Ad. **6**, 96 (**15**, 364).
EMBROIDERY, lace. **Steiger e Comp.** 4 N. 1880. II, **11**, 779 (**24**, 380).
on bias cut goods. **Steiger e Comp.** 4 N. 1880. II, **11**, 778 (**24**, 379).
EMERY CLOTH. **Ferrino.** 22 Mr. 1876. II, **7**, 125 (**17**, 77).
ENAMEL. **Candiani.** 9 S. 1869. I, **6**, 340 (**9**, 356).
ENAMELING. **Charbonnier frères.** 14 Ag. 1876. II, **7**, 395 (**17**, 347).
metals. **Maca.** 13 Ag. 1880. II, **11**, 562 (**24**, 163).
— **Nante fratelli.** 10 My. 1880. II, **11**, 292 (**23**, 393).
pottery. **Delange.** 30 Je. 1881. II, **12**, 584 (**26**, 134).
with gold and silver. **Candiani.** 30 Je. 1865. I, **2**, 28 (**6**, 12)—Ex. **3**, 88 (**6**, 414).
wood, stone, and metal, composition for. **Miller.** 30 D. 1864. I, **1**, 552 (**5**, 489).
ENCAUSTIC. **Poliesse e Lenglée.** 31 Mr. 1856. (**1**, 152.)* (*Sardinia.*)

ENGINE. *See* Aëroelectric, Air and steam, Air, Air gas and steam, Ammonia, Animal power, Blast, Caloric, Centripetal, Compound, Electric explosive gas, Ether, Gas, air, and steam, Gas, Hand, Hydraulic, Hydro-pneumatic, Manpower, Marine air, Marine, Mercury, Motive, Motor, Petroleum, Power, Rag, Rotary, Steam, air, and gas, Steam and hot-air, Steam, Traction, Vapor.

ENGRAVING. **Placet.** 30 S. 1863. (**4**, 107)*—Ex. I, **1**, 224 (**5**, 160).
tools. **De Hond.** 10 Ag. 1867. I, **4**, 27 (**7**, 415), pl. 82.
wood. **Corneliani.** 10 D. 1877. II, **8**, 706 (**19**, 296).

ENVELOPE. *See also* Advertising.
Anghinelli. 9 F. 1881. II, **12**, 72 (**25**, 122).
Capelletto. 27 Ag. 1880. II, **11**, 585 (**24**, 186).
Darin e Angelini. 13 Ap. 1881. II, **12**, 311 (**25**, 361), pl. 73.
Delavault. 6 Mr. 1874. II, **5**, 81 (**14**, 190), pl. 18.
Gramizzi, Marinoni et Cie. 9 F. 1881. II, **12**, 70 (**25**, 120), pl. 19—Ex. **13**, 233 (**28**, 5).
Hawkridge. 10 N. 1873. II, **4**, 544 (**14**, 24), pl. 151. Ad. **5**, 258 (**14**, 367), pl. 56.
Heinicke. 19 Je. 1880. II, **11**, 411 (**24**, 12), pl. 122.
Heu. 30 Jl. 1881. II, **12**, 693 (**26**, 243), pl. 182. Ad. **12**, 1139 (**27**, 189), pl. 315.
Lange. 27 Ja. 1882. II, **13**, 57 (**27**, 329), pl. 11.
Mauger. 28 S. 1880. II, **11**, 663 (**24**, 264), pl. 192.
Ramponi. 20 F. 1878. II, **9**, 82 (**19**, 437), pl. 22.
bordering machine. **De la Rue.** 28 O. 1878. II, **9**, 667 (**21**, 22), pl. 204.
gluing apparatus. **Simon.** 31 Ja. 1879. II, **10**, 25 (**21**, 225), pl. 7.
stamping machine. **Löffelherdt.** 12 O. 1880. II, **11**, 702 (**24**, 303), pl. 205. Ad. **12**, 1040 (**27**, 90), pl. 285.

ENVELOPING MACHINE, bottle, etc. **Fellinger.** 30 D. 1856. (**1**, 286.)* (*Sardinia.*)

EPAULET fastening. **Frattola.** 30 S. 1869. I, **6**, 372 (**9**, 388), pl. 123.
Villanis. 31 Mr. 1868. I, **5**, 68 (**8**, 138), pl. 17.

EQUIPMENTS. **Sèches.** 15 Je. 1878. II, **9**, 376 (**20**, 231), pls. 106, 107.

ESCAPEMENT. *See* Clock.

ESSENCE EXTRACTING MACHINE, lemon and bergamot. **Pacino.** 24 F. 1881. II, **12**, 118 (**25**, 168), pl. 29. Ad. **12**, 1124 (**27**, 174), pl. 314.

ESSENTIAL OIL OF LEMONS, etc., extracting. **Squarza.** 30 S. 1868. I, **5**, 346 (**8**, 416), pl. 103.

ETCHING GLASS, pottery, etc. **Nienstaedt.** 9 N. 1881. II, **12**, 1009 (**27**, 59).

ETHER ENGINE. **de Susini.** 28 F. 1880. II, **11**, 103 (**23**, 204), pl. 38.

EVAPORATING. **Ungerer.** 14 My. 1873. II, **4**, 220 (**13**, 200), pl. 59.

EVAPORATOR. *See also* Sugar juice.
Baumberger. 9 N. 1872. II, **3**, 495 (**12**, 395), pl. 120.
Buckwell. 5 Ag. 1870. II, **1**, 325 (**10**, 325), pl. 82—Ex. **3**, 133 (**12**, 33).
Calliburcés. 31 O. 1879. II, **10**, 715 (**22**, 415), pls. 194, 195. Ad. **11**, 118 (**23**, 219), pl. 42.
Calliburcés. 14 D. 1881. II, **12**, 1112 (**27**, 162), pls. 300–307.
Gontard. 31 Mr. 1882. II, **13**, 288 (**28**, 60), pl. 77.
Schultze. 21 S. 1872. II, **3**, 429 (**12**, 329), pl. 99.
Swiecianowski et Adamczewski. 12 O. 1881. II, **12**, 912 (**26**, 462), pl. 245.

EXCAVATING river bottoms. **Guinaud.** 30 S. 1876. II, **7**, 475 (**17**, 427), pl. 130.

EXCAVATOR. **Buquoy.** 7 Jl. 1873. II, **4**, 326 (**13**, 306), pl. 86.
Couvreux et Combe. 30 Je. 1862. (**3**, 270.)* Ad. I, **2**, 315 (**6**, 299), pl. 100, 101—Ex. **1**, 390 (**5**, 327).

EXPIRATOR. **Delaplace.** 14 Mr. 1882. II, **13**, 190 (**27**, 462), pl. 54.

EXPLOSIVE. **Anders.** 8 Mr. 1881. II, **12**, 172 (**25**, 222).
Anders. 8 Mr. 1881. II, **12**, 173 (**25**, 223).
Benedict e Bussy. 15 Je. 1880. II, **11**, 387 (**23**, 488).
Candiani e Biffi. 28 Mr. 1872. II, **4**, 144 (**13**, 124).
Cazé. 30 S. 1874. II, **5**, 462 (**15**, 71).
Cotte. 31 Ag. 1878. II, **9**, 539 (**20**, 394). Ad. II, **10**, 4 (**21**, 204).
Davis. 26 Mr. 1872. II, **3**, 119 (**12**, 19).

EXPLOSIVE—continued.
Diecherhoff. 31 Ja. 1876. II, **7**, 48 (**16**, 500).
Ditta sociale Banfi, Gemelli, ed Allasia. 17 N. 1869. I, **6**, 410 (**9**, 426).
Divine. 31 D. 1881. II, **12**, 1202 (**27**, 252).
Fahnehjelm. 20 Jl. 1877. II, **8**, 415 (**19**, 5).
Fehleisen. 4 D. 1866. I, **3**, 282 (**7**, 108).
Felhorn. 18 Je. 1879. II, **10**, 379 (**22**, 79).
Fuchs. 29 Jl. 1872. II, **3**, 343 (**12**, 243).
Hellhoff. 12 N. 1879. II, **10**, 737 (**22**, 437).
Lewin. 24 F. 1881. II, **12**, 119 (**25**, 169).
Kafenegger. 26 N. 1868. I, **5**, 372 (**8**, 443).
Müller. 29 Jl. 1873. II, **4**, 364 (**13**, 344)—Ex. **5**, 463 (**15**, 72).
Müller. 31 D. 1873. II, **4**, 625 (**14**, 105)—Ex. **5**, 643 (**15**, 252).
Müller. 6 Jl. 1877. II, **8**, 377 (**18**, 467).
Muschamp. 10 Ap. 1872. II, **3**, 146 (**12**, 46).
Nobel. 27 N. 1871. II, **2**, 424 (**11**, 346)—Ex. **8**, 699 (**19**, 289).
Nobel. 31 My. 1873. II, **4**, 256 (**13**, 236).
Nobel. 9 Mr. 1876. II, **7**, 98 (**17**, 50)—Ex. **8**, 697 (**19**, 287)—**10**, 354 (**22**, 54).
Norbin e Ohlsson. 18 N. 1872. II, **3**, 501 (**12**, 401)—Ex. **8**, 696 (**19**, 286).
Prodhomme. 21 D. 1881. II, **12**, 1128 (**27**, 178).
Rave aîné. 31 Mr. 1863. (**3**, 462.)*
Reynaud de Treto. 30 Je. 1860. (**2**, 362.)* (*Sardinia.*)
Robaudi. 31 D. 1863. (**4**, 122)*—Ex. I, **1**, 343 (**5**, 280).
Robaudi. 6 Je. 1872. II, **3**, 236 (**12**, 136).
de Rutenberg. 12 F. 1873. II, **4**, 66 (**13**, 46).
de Sanctis e de Angelis. 6 Mr. 1879. II, **10**, 106 (**21**, 306).
Sandoy. 24 S. 1881. II, **12**, 857 (**26**, 407).
Sanlaville e Roche. 21 D. 1880. II, **11**, 928 (**25**, 29).
Sobrero, Botto e Siacci. 19 Ap. 1873. II, **4**, 181 (**13**, 161).
Société anonyme de fabrication de dynamite. 8 Jl. 1878. II, **9**, 439 (**20**, 294)—Ex. **12**, 752 (**26**, 302).
manufacture. **Brydges.** 15 Je. 1878. II, **9**, 370 (**20**, 225).
— **Davey, Bickford, Watson et Cie.** 25 Ag. 1877. II, **8**, 500 (**19**, 90).
— **Hellhoff e Gruson.** 13 Ag. 1880. II, **11**, 555 (**24**, 156). Ad. **12**, 1081 (**27**, 131), pl. 294.
— **Judson.** 26 D. 1876. II, **7**, 606 (**18**, 59).
— **Révy.** 1 Ap. 1864. I, **1**, 70 (**5**, 6), pl. 6.
utilizing. **Montmagnon.** 16 My. 1876. II, **7**, 235 (**17**, 187), pl. 56.

EXTENSION furniture. **Edwards.** 21 Ap. 1876. II, **7**, 202 (**17**, 154), pl. 45. Ad. **9**, 203 (**20**, 58), pl. 51.

EXTINGUISHER. *See* Candle.

EXTRACT. *See also* Almond, Beer, Bergamot, Citron rind, Licorice, Madder, Meat, Orange.
apparatus. **Artesi.** 11 Mr. 1880. II, **11**, 127 (**23**, 228), pl. 45.
— **Gangeri.** 13 Ag. 1875. II, **6**, 424 (**16**, 192), pl. 96.
— **Pontari.** 14 Ja. 1876. II, **7**, 14 (**16**, 466), pl. 3.
coffee. **Zanoletti.** 18 S. 1877. II, **8**, 525 (**19**, 115).
lemon. **Antonelli.** 6 Ap. 1875. II, **6**, 166 (**15**, 434).
manufacture. **Bolanachi.** 27 Ap. 1882. II, **13**, 362 (**28**, 134).
— lemon, orange, and citron rind. **Sturge e Hollings.** 14 Ja. 1874. II, **5**, 6 (**14**, 115), pl. 1.
meat and vegetable. **Gannal.** 25 Je. 1875. II, **6**, 334 (**16**, 102).
— **Migliori.** 10 N. 1877. II, **8**, 648 (**19**, 238).
vanilla. **Haarmann.** 7 F. 1876. II, **7**, 60 (**17**, 12).

EXTRACTING aromatic, etc., liquids. **Barberis.** 3 Mr. 1873. II, **4**, 110 (**13**, 90)—Ex. **6**, 145 (**15**, 413).

EXTRACTOR. *See* Cartridge, Nail, Vegetable juice.

EYE-GLASS. **Duenninghaus.** 16 N. 1878. II, **9**, 703 (**21**, 58), pl. 215.
Goerz. 26 Ja. 1881. II, **12**, 11 (**25**, 61), pl. 1.
Porter-Michaels. 26 Je. 1880. II, **11**, 417 (**24**, 18), pl. 126.

FABRIC. *See also* Asbestos, Down, Elastic, Feather, Hat, Knit, Palm-leaf, Pile, Silk, Straw, Tont, Textile, Wire, Wool.
compound. **Richard.** 23 Ap. 1880. II, **11**, 263 (**23**, 364).
imitating Gobelin tapestry. **Letorey.** 31 My. 1881. II, **12**, 490 (**26**, 40).

FABRIC—continued.
shoe or slipper. **Beck fils.** 5 My. 1879. II, **10**, 267 (**21**, 467), pl. 75.
tearing machine for re-use of fiber. **Berthier.** 15 Ap. 1864. I, **1**, 133 (**5**, 69), pl. 14.
tent. **Steiger e Comp.** 4 N. 1880. II, **11**, 777 (**24**, 378).
wool and jute. **Leclercq.** 10 My. 1880. II, **11**, 289 (**23**, 390).
woven, knit, and felted. **Müller.** 26 Ap. 1879. II, **10**, 246 (**21**, 446).
FAN. *See also* Advertising.
mechanical. **Franzini.** 7 F. 1877. II, **8**, 57 (**18**, 147), pl. 17.
musical. **Bongini.** 25 Jl. 1878. II, **9**, 465 (**20**, 320), pl. 140.
self-acting. **Ménonval-Belcour.** 25 O. 1871. II, **2**, 379 (**11**, 301), pl. 81.
umbrella. **Giordano.** 27 Ag. 1874. II, **5**, 421 (**15**, 30), pl. 98.
— cane-whip. **Leloup e Herbert.** 31 Ag. 1878. II, **9**, 545 (**20**, 400), pl. 165.
FASTENER. *See* Car window, Carriage window, Door, Napkin, Necktie.
FASTENING. *See* Box, Bracelet, Button, Clothing, Corset, Curtain, Glove, Heel, Metallic, Paper bag, Preserve can, Railway rail, Sash, Screw, Shoe, Umbrella, Window sash.
FAT bleaching. **d'Ofenheim.** 15 S. 1879. II, **10**, 605 (**22**, 305). Ad. **10**, 753 (**22**, 453); **11**, 397 (**23**, 498), pl. 114.
boiler. **Baccarani.** 22 Mr. 1881. II, **12**, 218 (**25**, 268), pl. 53.
decomposing. **Martin.** 30 S. 1860. (**2**, 405.)* Ad. (**1**, 88). (*Sardinia.*)
— apparatus. **Renner.** 7 Je. 1866. I, **3**, 170 (**6**, 496), pl. 51.
distilling apparatus. **Compagnie générale d'éclairage.** 11 F. 1879. II, **10**, 64 (**21**, 264), pl. 18.
extracting. **Cardone.** 27 Ap. 1869. I, **6**, 156 (**9**, 172), pl. 48.
— **Deiss.** 25 My. 1864. I, **1**, 268 (**5**, 204), pl. 25.
— **Dépérais.** 4 N. 1871. II, **2**, 397 (**11**, 319), pl. 84.
— **Huet e Dépérais.** 21 Ja. 1882. II, **13**, 42 (**27**, 314).
— **Pyrkosck.** 29 N. 1881. II, **12**, 1048 (**27**, 98), pl. 285.
— from animal bodies. **Mège.** 6 Je. 1872. II, **3**, 237 (**12**, 187).
— from bones. **Cichetti.** 20 My. 1871. II, **2**, 123 (**11**, 45), pl. 28.
— — **Coen.** 3 D. 1866. I, **3**, 259 (**7**, 85), pl. 70.
— — **Schneider.** 24 O. 1881. II, **12**, 1154 (**27**, 204), pl. 325.
— — **Seltsam.** 31 Ag. 1880. II, **11**, 595 (**24**, 196), pl. 169—Ex. **12**, 812 (**26**, 362).
refining. **Combret.** 12 Ja. 1880. II, **11**, 18 (**23**, 119), pl. 6.
removing from fiber. **Reinfeld.** 24 S. 1864. I, **1**, 432 (**5**, 369)—Ex. **4**, 388 (**8**, 29).
rendering by steam. **Regondi e Chierichetti.** 21 O. 1876. II, **7**, 504 (**17**, 457), pl. 126.
separating apparatus. **Dépérais.** 10 Je. 1869. I, **6**, 274 (**9**, 290), pl. 92.
treatment. **Fortoul.** 27 Je. 1872. II, **3**, 276 (**12**, 176).
FEATHER fabric. **Bourguignon.** 28 Je. 1878. II, **9**, 410 (**20**, 265)—Ex. **10**, 434 (**22**, 134); **11**, 438 (**24**, 39).
mounting machine. **Levinsohn.** 22 Jl. 1876. II, **7**, 374 (**17**, 326), pl. 93.
FEED. **Barthe frères.** 21 Ag. 1876. II, **7**, 418 (**17**, 370).
Ravelli. 20 F. 1878. II, **9**, 71 (**19**, 426).
cattle. **Barthe.** 22 My. 1866. I, **3**, 135 (**6**, 461)—Ex. **6**, 272 (**9**, 288); II, **3**, 345 (**12**, 245); **6**, 407 (**16**, 175).
from distillery refuse. **Cordiglia.** 14 My. 1880. II, **11**, 302 (**23**, 403). Ad. **12**, 215 (**25**, 265).
steaming. **Monti.** 31 Mr. 1862. (**3**, 214.)*
FEEDWATER heater. **Berryman e Whitley.** 9 O. 1873. II, **4**, 488 (**13**, 468), pl. 137.
— **Chiazzari.** 16 Je. 1865. I, **2**, 172 (**6**, 156), pl. 49.
— **Koerting.** 11 My. 1878. II, **9**, 275 (**20**, 130), pl. 74.
purifier. **Meunier.** 18 D. 1872. II, **3**, 554 (**12**, 454), pl. 135.
— **Wagner.** 30 Je. 1862. (**3**, 256.)*
purifying. **Wagner.** 31 Mr. 1859. (**2**, 216.)* (*Sardinia.*)

FELT. **Abeilohou.** 30 Je. 1862. (**3**, 264.)*
manufacture. **Duchène** 25 Ag. 1869. I, **6**, 332 (**9**, 348).
— **Sommer.** 26 Mr. 1880. II, **11**, 177 (**23**, 278).
— **Sommer.** 10 Je. 1880. II, **11**, 374 (**23**, 475), pl. 106.
FELLY. **Jeantaud.** 6 Ap. 1875. II, **6**, 161 (**15**, 429), pl. 32.
FENCE. **Pictet.** 20 N. 1874. II, **5**, 562 (**15**, 171), pl. 133—Ex. **9**, 601 (**20**, 456).
Prastini. 21 Ap. 1882. II, **13**, 343 (**28**, 15), pl. 92.
barbed wire. **Hunt e Putnam.** 25 Jl. 1878. II, **9**, 468 (**20**, 320), pls. 140, 141.
wire machine. **Gondouin.** 31 Mr. 1865. I, **2**, 92 (**6**, 76), pls. 21, 22.
FERMENTING. **Berlinghieri.** 15 Mr. 1872. II, **4**, 121 (**13**, 101).
starch. **Leconte.** 8 Ap. 1872. II, **3**, 127 (**12**, 27).
wort. **d'Heureuse.** 23 Mr. 1869. I, **6**, 118 (**9**, 126). Ad. II, **1**, 87 (**10**, 87).
FERRO-CYANIDE manufacture. **de Gunzeburg e Tcherniac.** 29 Mr. 1881. II, **12**, 242 (**25**, 292), pls. 58, 59.
— **Tcherniac e Gunzeburg.** 20 Ap. 1878. II, **9**, 214 (**20**, 69), pl. 54. Ad. **10**, 227 (**21**, 427), pl. 65.
FERTILIZER. **d'Ambrosio.** 28 Mr. 1873. II, **4**, 147 (**13**, 127).
Cavezzali, Bianchi, Finoli e Segramora. 17 Ja. 1870. II, **1**, 6 (**10**, 6).
Compagnon. 30 S. 1860. (**2**, 425.)* (*Sardinia.*)
Costa. 17 Je. 1872. II, **3**, 250 (**12**, 150).
Coulet e Dubreuil. 31 D. 1863. (**4**, 80.)*
Duval. 31 Mr. 1860. (**2**, 319.)* (*Sardinia.*)
Gatti e Vico. 31 Mr. 1863. (**4**, 8.)*
Lapini. 24 Mr. 1869. I, **6**, 121 (**9**, 137).
Lapini. 24 Mr. 1869. I, **6**, 122 (**9**, 138).
Lavigne. 30 Je. 1862. (**3**, 255.)*
Morelli. 10 Mr. 1871. II, **2**, 59 (**10**, 481).
Mosselmann. 30 S. 1862. (**3**, 336.) Ad. (**1**, 132); (**1**, 139)*—Ex. I, **1**, 116 (**5**, 52).
Tonnoni. 25 Ag. 1877. II, **8**, 498 (**19**, 88).
Ville. 12 My. 1864. I, **1**, 210 (**5**, 146).
artificial. **Amies.** 3 Je. 1876. II, **7**, 268 (**17**, 220)—Ex. **8**, 408 (**18**, 498).
— **Cremonesi.** 23 Je. 1879. II, **10**, 399 (**22**, 99).
— **Forno.** 9 D. 1874. II, **5**, 600 (**15**, 209).
— **Parish.** 25 S. 1871. II, **2**, 325 (**11**, 247), pl. 171. Ad. **4**, 622 (**14**, 102).
— **Tubino.** 14 Je. 1873. II, **4**, 280 (**13**, 260).
distributor. **Couteau.** 18 Ag. 1882. II, **13**, 336 (**28**, 108), pl. 90.
insecticide. **Alengrin.** 21 D. 1880. II, **11**, 879 (**24**, 480).
— **de Chiaves.** 20 N. 1880. II, **11**, 819 (**24**, 420).
— **Forno.** 20 Ja. 1880. II, **11**, 34 (**23**, 135).
manufacture. **Anderson.** 19 Je. 1872. II, **3**, 257 (**12**, 157).
— **Baccarani.** 22 F. 1879. II, **10**, 87 (**21**, 287), pl. 21.
— **Bellon.** 7 N. 1874. II, **5**, 540 (**15**, 149), pl. 124.
— **Bolanachi.** 27 Ap. 1882. II, **13**, 362 (**28**, 134).
— **Bouffier.** 19 Ja. 1870. II, **1**, 14 (**10**, 14).
— **Breyer.** 23 Ap. 1880. II, **11**, 241 (**23**, 342), pl. 70.
— **Campbell.** 13 Jl. 1872. II, **3**, 314 (**12**, 214).
— **Chapusot.** 19 Ap. 1872. II, **3**, 154 (**12**, 54), pl. 46.
— **Depaoli.** 9 N. 1876. II, **7**, 523 (**17**, 476), pl. 131.
— **Dépérais.** 20 Mr. 1880. II, **11**, 168 (**23**, 269).
— **Fiumi e Pratesi.** 8 Ag. 1876. II, **7**, 389 (**17**, 341).
— **Forbes e Price.** 11 Mr. 1872. II, **3**, 79 (**11**, 479)—Ex. **6**, 80 (**15**, 348).
— **Girard.** 31 O. 1881. II, **12**, 969 (**27**, 19).
— **Gontier.** 24 D. 1874. II, **5**, 623 (**15**, 232).
— **Heinson.** 31 D. 1875. II, **6**, 676 (**16**, 444).
— **Hillé.** 29 Jl. 1872. II, **3**, 333 (**12**, 233), pl. 87.
— **Hillé.** 24 N. 1875. II, **7**, 559 (**18**, 12).
— **Huch.** 31 Ag. 1876. II, **7**, 438 (**17**, 390).
— **Lamb.** 27 S. 1879. II, **10**, 637 (**22**, 337).
— **Latham.** 30 Ap. 1873. II, **4**, 209 (**13**, 189).
— **Lissagaray.** 26 Ag. 1875. II, **6**, 447 (**16**, 215), pl. 104.
— **Lissagaray.** 4 S. 1875. II, **6**, 475 (**16**, 243), pl. 112. Ad. **6**, 505 (**16**, 273).
— **Lissagaray.** 22 Jl. 1876. II, **7**, 308 (**17**, 310), pl. 87.
— **Manning.** 8 Ag. 1873. II, **4**, 380 (**13**, 360), pl. 100.
— **McDougall.** 28 Ap. 1873. II, **4**, 204 (**13**, 184)—Ex. **5**, 483 (**15**, 92).
— **Monti.** 19 S. 1878. II, **9**, 583 (**20**, 438).
— **Pavesi e Rotondi.** 10 Jl. 1875. II, **6**, 357 (**16**, 125), pl. 48.
— **Petri.** 8 Je. 1881. II, **12**, 516 (**26**, 66).

FERTILIZER manufacture—continued.
— **Piazzi.** 6 Ag. 1872. II, **3**, 349 (**12**, 249).
— **Rawson, Ovenden, Wylde, McCree e Hill.** 10 Ag. 1871. II, **2**, 256 (**11**, 178), pl. 57.
— **Raymond.** 24 D. 1869. I, **6**, 480 (**9**, 496).
— **Scott.** 21 Mr. 1874. II, **5**, 117 (**14**, 226).
— **Sillar, Sillar e Rawson.** 16 Jl. 1872. II, **3**, 324 (**12**, 224).
— **Sillar, Sillar e Wigner.** 7 Jl. 1869. I, **6**, 262 (**9**, 278) -Ex. II, **2**, 254, 255 (**11**, 176, 177); **6**, 327 (**16**, 95); **9**, 358 (**20**, 213).
— **de Soulages.** 18 Mr. 1879. II, **10**, 119 (**21**, 319).
— **Thon.** 10 O. 1877. II, **8**, 580 (**19**, 170).
— **Wigner.** 13 S. 1870. II, **1**, 345 (**10**, 345), pl. 88.
— by sulphurous acid. **Guerri.** 13 S. 1871. II, **2**, 303 (**11**, 225).
— from animal refuse. **Anthony.** 18 Mr. 1879. II, **10**, 120 (**21**, 320), pl. 43.
— from blood. **Lissagaray.** 21 O. 1875. II, **6**, 556 (**16**, 324), pl. 133.
— from distillery refuse. **Cordiglia.** 14 My. 1880. II, **11**, 302 (**23**, 403). Ad. **12**, 215 (**25**, 265).
— from grape refuse. **Société anonyme des produits chimiques du Sud-Ouest.** 13 Ag. 1880. II, **11**, 548 (**24**, 149).
— from soap refuse. **Bassi.** 27 S. 1879. II, **10**, 631 (**22**, 331).
— gas products, utilizing. **Sirtaine.** 19 Ag. 1873. I, **4**, 391 (**13**, 371).
— potassic. **Dépérais.** 12 My. 1879. II, **10**, 277 (**21**, 477).
— solid. **Depaoli.** 27 Ag. 1870. II, **1**, 336 (**10**, 336), pl. 87.
seaweed. **Engelfred de Blieux.** 30 S. 1855. (**1**, 68.)* (*Sardinia.*)
transporting. **Massaza.** 28 Mr. 1870. II, **1**, 120 (**10**, 120), pl. 25—Ex. **4**, 174 (**13**, 154).
wool refuse. **Vallini.** 30 S. 1869. I, **6**, 360 (**9**, 376).

FIBER. *See also* Broom, Bullrush, Cocoa, Grape-vine, Palm-leaf.
bleaching and unsizing. **Selmi.** 17 F. 1872. II, **3**, 53 (**11**, 453).
brake. **Bramwell.** 25 F. 1881. II, **12**, 127 (**25**, 177), pl. 31.
— **Brasier e Bremme.** 2 F. 1871. II, **2**, 25 (**10**, 447), pl. 4.
— **Demailly.** 25 O. 1871. II, **2**, 374 (**11**, 296), pl. 83.
broom. **Vita.** 19 My. 1873. II, **4**, 232 (**13**, 212).
cleaning. **Vignaud.** 30 Je. 1861. (**3**, 77)*—Ex. I. **1**, 244 (**5**, 180).
drawing. **Good.** 7 O. 1872. II, **3**, 459 (**12**, 359), pl. 110—Ex. **4**, 477 (**13**, 457); **9**, 565 (**20**, 420).
— machine. **Good.** 9 N. 1876. II, **7**, 525 (**17**, 478), pl. 133.
dressing compound. **Sipriot.** 27 S. 1879. II, **10**, 618 (**22**, 318).
extracting. **de Bertelli.** 31 D. 1857. (**1**, 313.)* (*Sardinia.*)
— **Bruneau.** 30 S. 1856. (**1**, 240.)* (*Sardinia.*)
— **Deininger.** 26 Ag. 1871. II, **2**, 277 (**11**, 199), pl. 63.
— **Doll.** 22 Jl. 1880. II, **11**, 505 (**24**, 106).
— **Henrion.** 17 N. 1875. II, **6**, 186 (**16**, 354).
— **Péaud.** 30 N. 1875. II, **6**, 628 (**16**, 396).
— **Perelli-Ercolini.** 31 D. 1855. (**1**, 111)*—Ex. **1**, 17. (*Sardinia.*)
— **Tilghman.** 19 D. 1866. II, **3**, 285 (**7**, 111). Ad. **4**, 377 (**7**, 417).
— caspus. **Perelli-Ercolini.** 5 Ag. 1853. 55.* (*Sardinia.*)
— from broom. **Percivale.** 17 Ja. 1874. II, **5**, 13 (**14**, 22).
— from cat-tail. **Dupont.** 13 Jl. 1872. II, **3**, 315 (**12**, 215)—Ex. **6**, 378 (**16**, 146).
— from china, grass, hemp, etc, **Steart.** 25 Je. 1866. I, **3**, 155 (**6**, 481). Ad. **6**, 267 (**9**, 283)—Ex. II, **3**, 311 (**12**, 211).
— from fabrics, animal. **Gaudchaux.** 24 N. 1876. II, **7**, 562 (**18**, 15).
— from Hibiscus esculentum. **Bouju.** 7 Jl. 1873. II, **4**, 323 (**13**, 303).
— from marsh plants. **Josia e Scultetas.** 26 D. 1876. II, **7**, 608 (**18**, 61).

FIBER extracting—continued.
— from mulberry. **Jovignot.** 30 S. 1863. (**4**, 76.)*
— — bark. **Belluardi.** 2 Ag. 1864. I, **1**, 403 (**5**, 340).
— — — **Marasi.** 8 Jl. 1870. II, **1**, 288 (**10**, 288). Ad. **1**, 394 (**10**, 394).
— from nettle, rush, and broom. **Bucciolini.** 25 Je, 1874. II, **5**, 302 (**14**, 411), pl. 74.
impregnating. **Blythe.** 11 Ap. 1874. II, **5**, 150 (**14**, 259), pl. 34.
mulberry. **Emanuel.** 20 Mr. 1872. II, **3**, 101 (**12**, 1), Ad. **3**, 238 (**12**, 138); **4**, 456 (**12**. 356).
preparing. **Auer.** 31 Mr. 1862. (**3**, 200)*—Ex. I, **1**, 506 (**5**, 443); **1**. 508 (**5**, 445).
— **Capuccio.** 30 D. 1860. (**2**, 470.)* (*Sardinia.*)
— **Corral Tejado y Corbera.** 28 My. 1881. II, **12**, 457 (**26**, 5).
— **Curti. Picciotto e Comp** 27 Ag. 1854. 101.* (*Sardinia*).
— **Magner.** 9 N. 1876. II, **7**, 538 (**17**, 491).
— for spinning. **Seidel.** 23 Jl. 1881. II, **12**, 670 (**26**, 220).
— — weaving, or dyeing. **Mallard ed al.** 25 My. 1864. I, **1**, 267 (**5**, 203).
— Urtica nevia. **Collyer.** 16 Mr. 1880. II, **11**, 144 (**23**, 245), pl. 50.
reducing. **Mitscherlich.** 22 O. 1874. II, **5**, 515 (**15**, 124).
retting. **Brunet.** 17 Jl. 1880. II, **11**, 495 (**24**, 96), pl. 143.
— **Cornut.** 1 F. 1872. II, **3**, 38 (**11**, 438), pl. 10.
treating. **Claussen.** 2 F. 1854. 64.* (*Sardinia.*)
— **Ferrero.** 20 N. 1871. II, **2**, 419 (**11**, 341), pl. 89.
— **Fremy et Urbain.** 29 Ap. 1882. II, **13**, 378 (**28**, 150).
— **Imbs.** 15 S. 1879. II, **10**, 600 (**22**, 300), pl. 167. Ad. **11**, 2 (**23**, 103), pl. 1.
— **Routledge.** 16 S. 1872. II, **3**, 421 (**12**, 321).
— **Sachs.** 30 Jl. 1880. II, **11**, 478 (**24**, 79)—Ex. **12**, 699 (**26**, 249).
— **Société pour la fabrication de pâte de bois.** 11 F. 1882. II, **13**, 96 (**27**, 368)—Ex. **13**, 161 (**27**, 433).
— banana, agave, aloe, hibiscus, and cryptostegia. **di Bargnano.** 30 Je. 1855. (**1**, 32.)* (*Sardinia.*)
— nettle. **Favier.** 6 D. 1879. II, **10**, 812 (**23**, 12).
— to imitate silk. **Butler.** 26 D. 1876. II, **7**, 610 (**18**, 63).
vulcanized. **Savery.** 30 Mr. 1878. II, **9**, 171 (**20**, 26).
working machine. **Hubner.** 30 Je. 1858. (**2**, 118.)* (*Sardinia.*)

FIELD-GLASS. **Schnabl.** 26 Ap. 1877. II, **8**, 221 (**18**, 311), pl. 58.

FIG drying. **Maurano.** 15 D. 1877. II, **8**, 716 (**19**, 306), pl. 188. Ad. **9**, 219 (**20**, 74), pl. 54.

FILE cutter. **Bernot.** 30 S. 1857. (**1**, 491.)* (*Sardinia.*)
— **Colla.** 30 Je. 1857. (**1**, 438.)* (*Sardinia.*)
cutting by electricity. **Baynes ed al.** 13 Mr. 1868. I, **5**, 36 (**8**, 106).
— **Domingo.** 31 Mr. 1864. (**4**, 153.)*
cutting machine. **Bernot.** 31 Mr. 1864. (**4**, 188)*—Ex. I, **1**, 191 (**5**, 127).
— **Colombesi.** 16 D. 1867. I, **4**, 400 (**8**, 41), pl. 120.
— **Dobson e Mudge.** 30 Mr. 1878. II, **9**, 167 (**20**, 22), pl. 44—Ex. **12**, 305 (**25**, 355).
— **Weed.** 17 Je. 1872. II, **3**, 252 (**12**, 152), pl. 67—Ex. **6**, 209 (**15**, 477); **9**, 350 (**20**, 205).
recutting. **Lassus.** 29 Ag. 1866. I, **3**. 197 (**7**, 23).
renewing. **Clavel.** 5 Jl. 1864. I, **1**, 326 (**5**, 262).
sharpening. **Blake et Petitjean.** 31 D. 1863. (**4**, 170)*—Ex. I, **1**, 154 (**5**, 90).
— **Richardson.** 25 Ja. 1878. II, **9**, 34 (**19**, 389)—Ex. **12**, 75 (**25**, 125).

FILTER. *See also* Oil press, Tumbler.
Bonnefin. 31 D. 1877. II, **8**, 763 (**19**, 353), pls. 203, 204.
Crease. 21 O. 1875. II, **6**, 554 (**16**, 322), pl. 131.
Dehne. 8 Je. 1878. II, **9**, 362 (**20**, 217), pl. 102. Ad. **9**, 514 (**20**, 369), pl. 160—Ex. **10**, 330 (**22**, 30).
Dehne. 15 My. 1879. II, **10**, 288 (**21**, 488).
Elwes. 22 D. 1875. II, **6**, 663 (**16**, 431), pl. 168—Ex. **7**, 571 (**18**, 24).
Enzinger. 18 O. 1878. II, **9**, 631 (**20**, 486), pl. 193.
Gerson. 21 D. 1880. II, **11**, 873 (**24**, 474), pl. 254.

FILTER—continued.
Goria. 13 S. 1881. II, **12**, 822 (**26**, 372), pl. 219.
Guigues. 31 Mr. 1857. (**1**, 336.)* (*Sardinia.*)
Havard. 31 Mr. 1862. (**3**, 202.)*
Holtzinger. 25 Mr. 1878. II, **9**, 162 (**20**, 17), pl. 41.
Hyatt. 9 N. 1881. II, **12**, 992 (**27**, 42), pls. 269–271.
Kroog. 14 O. 1879. II, **10**, 682 (**22**, 382), pl. 183.
Mazzoni. 21 Mr. 1874. II, **5**, 108 (**14**, 217), pl. 23.
Nadault de Buffon. 30 D. 1858. (**2**, 172.)* (*Sardinia.*)
Petri. 21 D. 1881. II, **12**, 1129 (**27**, 179), pl. 319.
Pieper. 31 Jl. 1877. II, **8**, 451 (**19**, 41), pl. 113. Ad. **9**, 298 (**20**, 153), pl. 80, 81.
Van Haagen. 20 Ap. 1878. II, **9**, 209 (**20**, 64), pl. 52.
chemical. **Macay.** 28 Je. 1881. II, **12**, 574 (**26**, 124), pl. 145.
oil. **Méligne.** 13 Ja. 1875. II, **6**, 21 (**15**, 289), pl. 4.
press. **Boulouvard.** 18 Ap. 1877. II, **8**, 211 (**18**, 301), pl. 56.
— **Bowing.** 8 My. 1877. II, **8**, 256 (**18**, 346), pl. 71.
— **Dégoixe, Goubet e Bertin.** 12 Ag. 1875. II, **6**, 415 (**16**, 183), pl. 91.
— **Dehne.** 31 Mr. 1882. II, **13**, 277 (**28**, 49), pl. 74.
— **Lebée.** 21 Ag. 1873. II, **4**, 401 (**13**, 381), pl. 107.
— **Roberte.** 19 D. 1864. I, **1**, 523 (**5**, 460).
— **de Ruffo, Bonneval et Mouren.** 30 Je. 1863. (**4**, 22.)*
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Giorda. 22 O. 1872. II, **3**, 480 (**12**, 380), pl. 116. Ad. **4**, 834 (**13**, 314), pl. 89.
Grechi. 26 Jl. 1872. II, **3**, 331 (**12**, 231), pl. 85.
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Lanzillo. 15 O. 1873. II, **4**, 507 (**13**, 487), pl. 141. Ad. **5**, 36 (**14**, 145), pl. 5.
Ragaglia. 14 Ja. 1882. II, **13**, 25 (**27**, 294), pl. 7.
Toro. 30 S. 1858. (**2**, 100.)* (*Sardinia.*)
Watkins. 31 Ag. 1876. II, **7**, 436 (**17**, 388), pls. 105–109.
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Beltrami. 30 S. 1855. (**1**, 52.)* (*Sardinia.*)
Cordier. 31 D. 1862. (**3**, 416.)*
Dellanoce e Cavagna. 28 Ag. 1853. 59.* (*Sardinia.*)
Gerhart. 31 Mr. 1857. (**1**, 369.)* (*Sardinia.*)
Lansing. 30 S. 1859. (**2**, 278.)* (*Sardinia.*)
Le Mat. 30 S. 1859. (**2**, 270.)* (*Sardinia.*)
Lindner. 31 Mr. 1858. (**2**, 36)*—Ex. I, **1**, 187 (**5**, 123). (*Sardinia.*)
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Musso. 25 Ja. 1873. II, **4**, 39 (**13**, 19), pl. 1. Ad. **4**, 361 (**13**, 341), pl. 91.
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Richards. 30 S. 1871. II, **2**, 331 (**11**, 253), pl. 71.
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— **Grande.** 29 S. 1868. I, **5**, 328 (**8**, 398), pl. 101.
— **Sisco.** 31 D. 1862. (**3**, 388.)*
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— **Krupp.** 30 Je. 1863. (**3**, 464.)*
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— — **Descoutures.** 31 D. 1861. (**3**, 192.) Ad. (**1**, 109) (**1**, 124)*—Ex. I, **1**, 155 (**5**, 91), **4**, 424 (**8**, 65).
— — **Harvey North.** 31 D. 1862. (**3**, 395.)*
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— **Andreani.** 15 Mr. 1871. II, **2**, 70 (**10**, 492), pl. 11.
— **Ashton.** 15 Mr. 1873. II, **4**, 122 (**13**, 102), pl. 33—Ex. **9**, 200 (**20**, 55).
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— **Benson ed al.** 19 Ap. 1867. I, **4**, 128 (**7**, 268), pl. 39.
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— **Berdan.** 26 My. 1869. I, **6**, 215 (**9**, 231), pl. 64—Ex. II, **6**, 180 (**15**, 448).
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— **Boglione.** 30 Je. 1860. (**2**, 379.)* (*Sardinia.*)
— **Botti.** 29 N. 1875. II, **6**, 615 (**16**, 383), pl. 150.
— **Bovy.** 31 Mr. 1868. I, **5**, 69 (**8**, 139), pl. 17.
— **Brand.** 8 Je. 1867. I, **4**, 179 (**7**, 319), pl. 56.
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— **Burton.** 15 N. 1866. I, **3**, 246 (**7**, 72), pl. 76.
— **Burton.** 18 Je. 1868. I, **5**, 212 (**8**, 282), pl. 63. Ad. **6**, 445 (**9**, 461), pl. 143—Ex. II, **2**, 216 (**11**, 138); Ad. **3**, 24 (**11**, 424), pl. 8—Ex. **7**, 301 (**17**, 253).
— **Burton.** 15 Ap. 1874. II, **5**, 168 (**14**, 277), pl. 38—Ex. **11**, 261 (**23**, 362).
— **Burton.** 12 D. 1881. II, **12**, 1089 (**27**, 139), pl. 295.
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— **Chassepot.** 12 O. 1866. I. **3**, 224 (**7**, 50), pl. 66. Ad. **6**, 302 (**9**, 318), pl. 101—Ex. II, **3**, 403 (**12**, 303).
— **Chiarolanza.** 23 Jl. 1869. I, **6**, 291 (**9**, 307), pl. 97.
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— **Forbes.** 30 Je. 1860. (**2**, 375.)* (*Sardinia.*)
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— **Glisenti.** 2 Mr. 1870. II, **1**, 77 (**10**, 77), pl. 18.
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— **Green.** 6 Jl. 1877. II, **8**, 381 (**18**, 471), pl. 104. Ad. **9**, 129 (**19**, 484), pl. 35.
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— **Heeren.** 20 S. 1880. II, **11**, 631 (**24**, 232), pl. 182—Ex. **11**, 911 (**25**, 12).
— **Henry.** 19 Ag. 1871. II, **2**, 274 (**11**, 196), pl. 61. Ad. **3**, 484 (**12**, 384), pl. 117; **4**, 325 (**13**, 305), pl. 87—Ex. **5**, 351 (**14**, 460).
— **Hotchkiss.** 11 Jl. 1876. II, **7**, 343 (**17**, 295), pl. 78.
— **Houghton.** 10 N. 1880. II, **11**, 797 (**24**, 398), pl. 229—Ex. **12**, 519 (**26**, 69).
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— **Liprandi.** 31 D. 1869. I, **6**, 452 (**9**, 468), pl. 144.
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— **Loewe.** 15 S. 1876. II, **7**, 446 (**17**, 398), pl. 111.
— **Loron.** 15 My. 1867. I, **4**, 162 (**7**, 302), pl. 46.
— **Maccari.** 2 S. 1868. I, **5**, 322 (**8**, 392).
— **Mannelicher.** 10 Ag. 1881. II, **12**, 736 (**26**, 286), pl. 193.
— **Marcet.** 30 S. 1863. (**4**, 69.)*
— **Marelli e Marelli.** 13 S. 1871 II, **2**, 301 (**11**, 223), pl. 67.
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— **Milovanovitz-Koka.** 12 O. 1881. II, **12**, 910 (**25**, 460), pl. 245.
— **Minié.** 17 F. 1865. I, **2**, 53 (**6**, 37), pl. 13. Ad. **2**, 153 (**6**, 137), pl. 38.
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— **Norris.** 16 Je. 1868. I, **5**, 200 (**8**, 270), pl. 66.
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— **Pennachia.** 30 S. 1873. II, **4**, 469 (**13**, 449), pl. 134.
— **Petito.** 3 Mr. 1865. I, **2**, 59 (**6**, 43), pl. 12.
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— **Pietrobon, Colombo e Micheloni.** 14 F. 1870. II, **1**, 64 (**10**, 64), pl. 11.
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— **Richards.** 28 F. 1869. I, **6**, 69 (**9**, 85), pl. 18. Ad. **6**, 409 (**9**, 425), pl. 135.
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— **Sauerbrey.** 13 Ag. 1880. II, **11**, 560 (**24**, 161), pl. 155.

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— **Schneider.** 11 S. 1867. I, **4**, 304 (**7**, 444), pl. 97. Ad. **5**, 51 (**8**, 121), pl. 14.
— **Scorrocchia.** 25 Ap. 1874. II, **5**, 185 (**14**, 294), pl. 40.
— **Scott.** 12 O. 1866. I, **3**, 221 (**7**, 47), pl. 65.
— **Semain.** 28 Ag. 1873. II, **4**, 417 (**13**, 397), pl. 110.
— **Serf.** 1 Je. 1868. I, **5**, 181 (**8**, 251), pl. 48.
— **Snider.** 6 F. 1866. I, **3**, 24 (**6**, 350), pls. 6, 7.
— **Società Fombuena.** 30 Jl. 1866. I, **3**, 179 (**7**, 5), pl. 55.
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— **Soper.** 10 O. 1877. II, **8**, 586 (**19**, 176), pl. 149—Ex. **11**, 689 (**24**, 290).
— **Sparre.** 26 Mr. 1867. I, **4**, 86 (**7**, 226), pl. 36.
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— **Terry.** 30 Je. 1858. (**2**, 85.)* (*Sardinia.*)
— **Toni e figlio.** 27 S. 1872. II, **3**, 447 (**12**, 347), pl. 108.
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— **Trinquier.** 14 Ag. 1874. II, **5**, 396 (**15**, 5), pl. 90.
— **Valasse.** 15 F. 1881. II, **12**, 130 (**25**, 180). pl. 31.
— **Venditti.** 8 F. 1872. II, **3**, 39 (**11**, 439), pl. 10.
— **Vitali.** 23 Ag. 1867. I, **4**, 284 (**7**, 424), pl. 87.
— **Werder.** 5 Je. 1871. II. **2**, 160 (**11**, 82), pl. 35.
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— **Williamson.** 18 Je. 1868. I, **5**, 218 (**8**, 288), pl. 66.
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— **Wilson.** 27 Ap. 1871. II, **2**, 117 (**11**, 39), pl. 24—Ex. **5**, 323 (**14**, 432).
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— **Zeilinger.** 27 N. 1871. II, **2**, 423 (**11**, 345), pl. 87.
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— **Dorvault.** 3 N. 1864. I, **1**, 487 (**5**, 424).
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— **Pirlot.** 14 F. 1873. II, **4**, 75 (**13**, 55), pl. 21. Ad. **4**, 410 (**13**, 390), pl. 109—Ex. **4**, 476 (**13**, 456).
— **Pirlot.** 15 N. 1877. II, **8**, 663 (**19**, 253), pl. 174. Ad. **9**, 23 (**19**, 378), pl. 4. Ad. **9**, 589 (**20**, 444).
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— **Thornton de Mouncie e Kaufmann.** 25 Ag. 1877. II, **8**, 503 (**19**, 90), pl. 127—Ex. **11**, 604 (**24**, 205).
— **Torricelli-Trevisani ed al.** 13 Ap. 1869. I, **6**, 132 (**9**, 148), pl. 42.
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Nazari. 18 S. 1877. II, **8**, 529 (**19**, 119), pl. 131. Ad. **9**, 557 (**20**, 412), pl. 174.
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Ponchia. 11 Ja. 1875. II, **7**, 10 (**16**, 462), pl. 2. Ad. **7**, 499 (**17**, 452).
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FIRE-EXTINGUISHING car. **Merighi.** 30 S. 1858. (**2**, 150.)* (*Sardinia.*)
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Buhrer. 18 Ap. 1867. I, **4**, 115 (**7**, 255), pl. 38.
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Legrand. 30 Je. 1857. (**1**, 394.)* (*Sardinia.*)
Massazza. 14 Mr. 1868. I, **5**, 45 (**8**, 115), pl. 13; II, **2**, 93 (**11**, 15).
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Tassara. 13 S. 1871. II, **2**, 297 (**11**, 219).
Tassara. 31 D. 1875. II, **6**, 680 (**16**, 448).
compound. **Borghi.** 24 Ap. 1870. II, **1**, 168 (**10**, 168).
— **Martin.** 31 Ja. 1879. II, **10**, 29 (**21**, 229).
— **Nanetti.** 29 Jl. 1881. II, **12**, 689 (**26**, 239). Ad. **13**, 369 (**28**, 141).
liquid. **Rolland.** 19 Je. 1878. II, **9**, 385 (**20**, 240).
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— machine. **Picciotto.** 30 D. 1856. (**1**, 329.)* (*Sardinia.*)
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Rathgeb. 14 F. 1870. II, **1**, 66 (**10**, 66), pl. 12—Ex. **3**, 32 (**11**, 432).
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— machine. **Fleetwood.** 15 Mr. 1866. I, **3**, 76 (**6**, 402), pl. 25—Ex. **4**, 98 (**7**, 238).
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FREEZER. **Nobel.** 29 Mr. 1881. II, **12**, 243 (**25**, 293).
FREEZING mixture. **Bacquie.** 26 Jl. 1880. II, **11**, 507 (**24**, 108).
— **Brun.** 25 Mr. 1876. II, **7**, 143 (**17**, 95). Ad. **7**, 435 (**17**, 387)—Ex. **8**, 261 (**18**, 351).
— **Corsico.** 10 O. 1877. II, **8**, 577 (**19**, 167).
— **Corsico-Piccolino.** 15 D. 1879. II, **10**, 826 (**23**, 26).
— **de Harilaoz.** 18 S. 1877. II, **8**, 548 (**19**, 138).
— **Julien.** 6 N. 1880. II, **11**, 785 (**24**, 386).
— **Martin.** 5 My. 1874. II, **5**, 208 (**14**, 317), pl. 46—Ex. **8**, 314 (**18**, 404).
— **Quaro.** 3 Je. 1881. II, **12**, 494 (**26**, 44).
— **Seidenschwang.** 9 Jl. 1879. II, **10**, 442 (**22**, 142).
— **Turrettini.** 27 F. 1877. II, **8**, 77 (**18**, 167).
— recovering salt from. **Lucifero.** 11 D. 1875. II, **6**, 653 (**16**, 421).
FRICTION surface composition. **Gwynn.** 30 Ap. 1870. II, **1**, 182 (**10**, 182).
FRUIT curing compound. **Migneco.** 16 Ag. 1877. II, **8**, 480 (**19**, 70).
drier. **Compagnie de l'évaporateur Reynolds pour fruits et houblons.** 31 O. 1879. II, **10**, 707 (**22**, 407), pl. 194.
— **Reynolds.** 30 Mr. 1878. II, **9**, 191 (**20**, 46), pl. 49.
press. **Martin.** 20 D. 1873. II, **4**, 593 (**14**, 73), pl. 165—Ex. **6**, 14 (**15**, 282).
zest removing. **Méligne.** 13 Ja. 1875. II, **6**, 18 (**15**, 286), pl. 5.
FUEL, agglomerating. **Dutrail de Morges.** 30 S. 1859. (**2**, 349)* (8.) (*Sardinia.*)
artificial. **Barker.** 29 S. 1868. I, **5**, 337 (**8**, 407)—Ex. II, **1**, 88 (**10**, 88).
— **Beltramo.** 30 S. 1855. (**1**, 26.)* (*Sardinia.*)
— **Bergeron.** 16 Je. 1865. I, **2**, 166 (**6**, 150).
— **Billebault.** 22 F. 1873. II, **4**, 86 (**13**, 46).
— **Bocquet e Benard.** 31 Ja. 1873. II, **4**, 43 (**13**, 23), pls. 12, 13.
— **Bonandi.** 17 Je. 1872. II, **3**, 254 (**12**, 154).
— **Bruti ed al.** 1 Ap. 1864. I, **1**, 71 (**5**, 7), pl. 6; **2**, 122 (**5**, 7)—Ex. **3**, 140 (**6**, 466).
— **Coari ed al.** 2 F. 1865. I, **2**, 39 (**6**, 23).
— **Coari.** 17 F. 1865. I, **2**, 54 (**6**, 38).
— **Coari ed al.** 11 Mr. 1865. I, **2**, 67 (**6**, 51).
— **Coppini e Bossi.** 28 Ja. 1881. II, **12**, 24 (**25**, 74).
— **Corcione.** 6 Mr. 1874. II, **5**, 87 (**14**, 196), pl. 17.
— **Costa.** 9 N. 1870. II, **1**, 383 (**10**, 383).
— **Danemary de la Marquizière.** 1 D. 1869. I, **6**, 446 (**9**, 462).
— **Dubosq.** 10 S. 1861. I, **4**, 302 (**7**, 442). Ad. **5**, 317 (**8**, 387)—Ex. **5**, 318 (**8**, 388).
— **Ferrero.** 31 Ja. 1874. II, **5**, 41 (**14**, 150).
— **Ferro.** 20 N. 1873. II, **4**, 547 (**14**, 27).
— **Filiberti.** 28 My. 1868. I, **5**, 159 (**8**, 229).
— **Fischer.** 12 Mr. 1855. 111.* (*Sardinia.*)
— **Forbes.** 28 N. 1873. II, **4**, 566 (**14**, 46).
— **Fuchs et Brunel.** 29 Jl. 1874. II, **5**, 352 (**14**, 461), pl. 82.
— **Fusi.** 27 D. 1875. II, **6**, 667 (**16**, 435). Ad. **8**, 601 (**19**, 191).
— **Gazagne.** 17 Jl. 1868. I, **5**, 237 (**8**, 307).
— **Giussani.** 30 Je. 1855. (**1**, 1.)* (*Sardinia.*)
— **Greven.** 23 Mr. 1882. II, **13**, 231 (**28**, 3).

FUEL, artificial—continued.
— **Gualazzi.** 17 S. 1875. II, **6**, 480 (**16**, 248), pl. 109.
— **Hess.** 17 N. 1875. II, **6**, 588 (**16**, 356).
— **Maffiodo.** 10 Ag. 1868. I, **5**, 269 (**8**, 339).
— **Martin.** 22 S. 1873. II, **4**, 460 (**13**, 440). Ad. **4**, 489 (**13**, 469).
— **Mori.** 30 Je. 1856. (**1**, 196.)* (*Sardinia.*)
— **Mottura.** 7 N. 1874. II, **5**, 543 (**15**, 152).
— **Nobili e Paoletti-Perini.** 31 D. 1873. II, **4**, 621 (**14**, 101).
— **Petich e Romano.** 29 Je. 1874. II, **5**, 319 (**14**, 428).
— **Petri.** 8 Je. 1881. I, **12**, 516 (**26**, 66).
— **Pradice-Pozzi e Comp.** 13 My. 1875. II, **6**, 238 (**16**, 6).
— **Remorino.** 21 Mr. 1882. II, **13**, 215 (**27**, 487).
— **Santacroce.** 27 S. 1872. II, **3**, 445 (**12**, 345), pl. 188.
— **Settembrini.** 29 D. 1874. II, **5**, 636 (**15**, 245), pls. 153, 154.
— **Stocker.** 12 S. 1865. I, **2**, 235 (**6**, 219), pl. 62.
— **Tiget e Schiapparelli.** 22 S. 1853. 60.* (*Sardinia.*)
— **Wilkinson.** 19 Jl. 1875. II, **6**, 388 (**16**, 156).
— **Zienkowicz.** 31 Mr. 1863. (**3**, 489.)*
- from olive refuse. **Daninos e Enriques.** 17 Je. 1870. II, **1**, 247 (**10**, 247).
brick. **Rocca.** 23 Je. 1879. II, **10**, 398 (**22**, 98).
— manufacture. **Chinaglia.** 18 Je. 1854. 89.* (*Sardinia.*)
— — **Cory e Cory.** 12 Ap. 1872. II, **4**, 172 (**13**, 152), pl. 47.
burning moist. **Società generale di metallurgia.** 30 Mr. 1875. II, **6**, 140 (**15**, 408), pl. 26.
compressing. **Kingsfort.** 31 D. 1855. (**1**, 126.)* (*Sardinia.*)
drier. **Ponsard.** 28 Ap. 1874. II, **5**, 201 (**14**, 310), pl. 39.
economizing. **Joly de Marval.** 10 O. 1869. I, **4**, 338 (**7**, 479), pl. 103.
lignite. **Ponsard.** 28 O. 1865. I, **2**, 295 (**6**, 279).
liquid. **Tonini.** 30 Je. 1856. (**1**, 188.)* Ad. (**1**, 22). (*Sardinia.*)
manufacture. **Barker.** 19 My. 1873. II, **4**, 235 (**13**, 215).
— **Calza-Cramer.** 8 O. 1870. II, **1**, 368 (**10**, 368)—Ex. **4**, 493 (**13**, 473); **6**, 540 (**16**, 308); **7**, 494 (**17**, 447).
— **Lafage.** 28 Je. 1879. II, **10**, 406 (**22**, 106), pl. 118.
— **Lodge.** 1 My. 1872. II, **3**, 187 (**12**, 87).
— **Mottura.** 6 Jl. 1880. II, **11**, 459 (**24**, 60).
— **Rae.** 22 F. 1873. II, **4**, 88 (**13**, 68), pl. 25—Ex. **5**, 84 (**14**, 193).
— **Ragazzi.** 30 S. 1876. II, **7**, 481 (**17**, 433).
— **Schacht, Usiglio e Comp.** 24 My. 1876. II, **7**, 257 (**17**, 209).
— **Zienkowicz.** 11 Ja. 1877. II, **8**, 4 (**18**, 94), pl. 2.
— from coal-dust. **Ménand.** 28 O. 1865. I, **2**, 294 (**6** 278).
metal reducing. **Gwynne.** 30 S. 1855. (**1**, 57.)* (*Sardinia.*)
molding machine. **Defrasne.** 31 D. 1862. (**3**, 424.)*
olive. **Ponsard.** 30 N. 1865. I, **2**, 325 (**6**, 309).
treatment. **Tosti.** 4 F. 1865. I, **2**, 41 (**6**, 25), pl. 13.
FULLING-MILL. **Poujal.** 16 F. 1870. II, **1**, 70 (**10**, 70), pl. 12.
FUNNEL, valve. **Corazza.** 15 S. 1873. II, **4**, 450 (**13**, 430), pl. 124—Ex. **5**, 482 (**15**, 91).
FUR goods manufacture. **Liatti e Comp.** 31 Mr. 1882. II, **13**, 274 (**28**, 46).
protecting from insects. **Wickersheimer.** 30 Ap. 1880. II, **11**, 279 (**23**, 380).
FURNACE. *See also* Asphalt, Blast, Boneblack revivifying, Calcining, Carbon bisulphide, Carbonizing, Coal-dust agglomerating, Coke, Copper smelting, Cremation, Cupola, Drying, Gas and superheated steam, Gas, Gas generating, Gas illuminating, Gas manufacture, Gas retort, Glass annealing, Glass, Glass melting, Gold ore roasting, Heating, Hydrocarbon, Iron casting, Iron, Iron melting, Lignite carbonizing, Locomotive boiler, Melting, Mercury, Metal heating, Metal melting, Metal recasting, Metal reducing, Metallurgic, Nickel smelting, Ore roasting, Ore smelting, Petroleum, Puddling, Regenerator, Reheating, Reverberatory, Silk spinning, Silver ore roasting, Smelting, Steam boiler, Steel manufacture, Steel melting, Sulphur distilling, Sulphur, Sulphur melting, Sulphur refining, Sulphur roasting, Superheated air, Zinc.

FURNACE—continued.
Bonelli. 30 S. 1857. (**1**, 452.)* (*Sardinia.*)
Brison et Chavanne. 31 D. 1861. (**3**, 167)*—Ex. I, **1**, 515 (**5**, 452).
Chinaglia. 23 Mr. 1870. II, **1**, 110 (**10**, 110), pls. 24, 25—Ex. **2**, 3 (**10**, 425). Ad. **2**, 69 (**10**, 491), pl. 12—Ex. **3**, 95 (**11**, 495). Ad. **3**, 189 (**12**, 89), pl. 52; **4**, 152 (**13**, 132), pl. 43.
Liegel. 6 S. 1880. II, **11**, 611 (**24**, 212), pls. 173, 174.
Payen. 20 Mr. 1880. II, **11**, 159 (**23**, 260), pl. 52.
Sacchelli. 31 D. 1862. (**3**, 389.)*
Scotti. 30 Je. 1862. (**3**, 283.)*
annular. **Hoffmann.** 9 Ag. 1864. I, **1**, 85, (**5**, 21), pl. 9—Ex. **5**, 49, 50 (**8**, 119, 120); II, **2**, 7 (**10**, 429).
burning rice hull. **Gottardi.** 31 Mr. 1868. I, **5**, 56 (**8** 126), pl. 16.
coal-dust. **Chinaglia.** 30 Je. 1860. (**2**, 385.)* (*Sardinia.*)
feed valve. **Bougleux.** 30 S. 1880. II, **11**, 676 (**24**, 277).
gases, treating. **Wilson, Wilson e French.** 26 Mr. 1880. II, **11**, 181 (**23**, 282), pl. 55.
gases utilizing. **Pernot.** 29 Jl. 1872. II, **3**, 335 (**12**, 235), pl. 87.
heat, utilizing lost. **Cowan.** 8 Je. 1875. II, **6**, 301 (**16**, 69), pl. 66.
heating feed-air and gas for. **Whitwell.** 12 Mr. 1872. II, **3**, 92 (**11**, 492), pl. 27.
inexpensive heating. **Righetti.** 21 Jl. 1865. I, **2**, 210 (**6**, 194), pl. 51.
oven, etc., economizing fuel in. **Joly de Marval.** 10 O. 1869. I, **4**, 338 (**7**, 479), pl. 103.
stove, etc., spiral. **Ricci.** 15 My. 1867. I, **4**, 161 (**7**, 301), pl. 49.
straw. **Paolucci.** 14 My. 1873. II, **4**, 225 (**13**, 205), pl. 59.
FURNITURE. **Martinotti padre e figlio.** 30 S. 1861. (**3**, 137.)*
Solbiati. 12 Mr. 1874. II, **5**, 93 (**14**, 202), pl. 19.
beut wood. **Sonnino.** 31 O. 1879. II, **10**, 716 (**22**, 416), pl. 194.
combination. **Bonduel.** 29 Ap. 1881. II, **12**, 372 (**25**, 422), pl. 92.
design. **Rosetti.** 31 D. 1877. II, **8**, 755 (**19**, 345), pl. 200.
extension. **Edwards.** 21 Ap. 1876. II, **7**, 202 (**17**, 154), pl. 45. Ad. **9**, 203 (**20**, 58), pl. 51.
folding. **Bazetta.** 28 Ag. 1872. II, **3**, 387 (**12**, 287), pl. 96—Ex. **4**, 496 (**13**, 476).
iron. **de Micheli.** 14 Ag. 1874. II, **5**, 392 (**15**, 1), pl. 89. Ad. **5**, 433 (**15**, 42); **6**, 177 (**15**, 445); **6**, 396 (**16**, 164); **6**, 450 (**16**, 218).
— **de Micheli.** 30 Je. 1880. II, **11**, 446 (**24**, 47). Ad. **11**, 487 (**24**, 88).
— **de Micheli.** 22 F. 1882. II, **13**, 118 (**27**, 390), pl. 34.
FUSE. **Berdan.** 30 Je. 1879. II, **10**, 414 (**22**, 114), pl. 119.
Brandon. 21 Ag. 1873. II, **4**, 405 (**13**, 385), pls. 108, 109. Ad. **4**, 616 (**14**, 96), pl. 169; **7**, 353 (**17**, 305), pl. 87; **8**, 455 (**19**, 45), pl. 118—Ex. **10**, 483 (**22**, 183). Ad. **11**, 919 (**25**, 20); **11**, 224 (**23**, 325), pl. 64; **12**, 1104 (**27**, 154), pl. 298.
Ferrando. 31 Mr. 1861. (**3**, 210.)*
Fornerod Studler et Rubin. 26 D. 1877. II, **8**, 749 (**19**, 339), pl. 200.
Meunier. 12 Mr. 1873. II, **4**, 114 (**13**, 94), pl. 32.
machine. **Cavallini.** 22 F. 1866. I, **3**, 43 (**6**, 369), pl. 13.
manufacture. **Davey, Bickford, Watson et Cie.** 25 Ag. 1877. II, **8**, 500 (**19**, 90).
— **Ottino.** 30 S. 1860. (**2**, 440.)* (*Sardinia.*)
mine. **Bossolo.** 31 Mr. 1861. (**4**, 3.)
percussion. **Bessolo.** 28 Ag. 1872. II, **3**, 386 (**12**, 286), pl. 96—Ex. **4**, 494 (**13**, 474); **5**, 499 (**15**, 108); **6**, 537 (**16**, 305); **7**, 492 (**17**, 445).
— **Hotchkiss.** 12 N. 1879. II, **10**, 743 (**22**, 443), pl. 204.
— **Société anonyme de fabrication d'acier fondu et des armes Witten.** 9 Ap. 1877. II, **8**, 185 (**18**, 275), pl. 49—Ex. **9**, 218 (**20**, 73); **10**, 572 (**22**, 272).
— **Voruz.** 14 Jl. 1864. I, **1**, 344 (**5**, 281), pl. 60.
time and percussion. **Valvassori.** 28 My. 1868. I, **5**, 144 (**8**, 214), pl. 29—Ex. II, **1**, 144 (**10**, 144).
GAGE. *See* Liquid, Locomotive traction, Power, Pressure, Railway track, Steam-boiler water, Steam-engine indicator, Water-closet, Water level.

GAITER. **Civallero.** 30 My. 1871. II, **2**, 152 (**11**, 74), pl. 30.
Riese. 30 Ja. 1880. II, **11**, 39 (**23**, 140), pl. 13—Ex. **12**, 496 (**26**, 46); **13**, 294 (**28**, 66).
GALVANIZING glass. **Petit-Jean.** 31 D. 1855. (**1**, 125.)* (*Sardinia.*)
stereotype plates. **Boeri.** 31 Mr. 1857. (**1**, 360.)* (*Sardinia.*)
GAME. **Castagni.** 27 My. 1879. II, **10**, 309 (**22**, 9), pl. 84.
GAS absorbing. **Hargreaves.** 14 Jl. 1877. II, **8**, 399 (**18**, 489), pl. 107.
air and steam engine. **Hureau.** 21 Mr. 1870. II, **1**, 98 (**10**, 98), pl. 19.
and superheated steam furnace. **de Parente.** 11 Mr. 1880. II, **11**, 129 (**23**, 230), pl. 45.
and water engine. **Hugon.** 30 Je. 1860. (**2**, 367.)* (*Sardinia*)—Ex. I, **1**, 277 (**5**, 213).
apparatus. **Bon.** 31 Mr. 1870. II, **1**, 139 (**10**, 139), pl. 35.
— **Bovver.** 31 Mr. 1857. (**1**, 375.)* (*Sardinia.*)
— **Colacicchi.** 12 Ag. 1871. II, **2**, 260 (**11**, 182), pl. 57.
— **Pasinati.** 25 O. 1871. II, **2**, 366 (**11**, 288), pl. 79.
— hydrocarbon. **Riedinger.** 17 N. 1869. I, **6**, 411 (**9**, 427), pls. 135, 136.
chimney. **Louit.** 31 Mr. 1863. (**3**, 480.)*
compressor. **Viglino.** 31 D. 1863. (**4**, 95.)*
condenser. **Brunt e Renaux.** 31 D. 1863. (**4**, 156.)*
condensing, absorbing, and purifying apparatus. **Nesham, Hersey, Hulett, Chandler Sen and Jun.** 14 My. 1881. II, **12**, 421 (**25**, 471), pl. 104.
desulphurizing. **Lux.** 30 Je. 1881. II, **12**, 594 (**26**, 144). Ad. **12**, 1156 (**27**, 206).
engine. **Arbos.** 31 D. 1862. (**3**, 410)*—Ex. I, **1**, 253 (**5**, 189).
— **Belon.** 30 Je. 1860. (**2**, 368.)* (*Sardinia*)—Ex. I, **1**, 175 (**5**, 111).
— **Benier e Lamart.** 31 Mr. 1881. II, **12**, 270 (**25**, 320), pl. 64—Ex. **13**, 300 (**28**, 72).
— **de Bisschop.** 30 N. 1878. II, **9**, 720 (**21**, 75), pl. 219.
— **Boulton.** 12 D. 1876. II, **7**, 586 (**18**, 39), pl. 151.
— **Bradley.** 30 D. 1876. II, **7**, 634 (**18**, 87), pl. 160.
— **Compagnie des moteurs à gaz français (système Ravel).** 31 Ag. 1880. II, **11**, 596 (**24**, 197), pl. 168.
— **Daimler.** 17 My. 1875. II, **6**, 253 (**16**, 21), pl. 55.
— **Daimler.** 30 S. 1879. II, **10**, 654 (**22**, 354), pl. 180.
— **Devaux.** 21 My. 1879. II, **10**, 293 (**21**, 453), pl. 79.
— **Dolgorouky.** 28 O. 1878. II, **9**, 652 (**21**, 7), pl. 204. Ad. **10**, 587 (**22**, 287), pl. 166.
— **Fabbrica di motori a gaz di Deutz.** 14 My. 1874. II, **5**, 229 (**14**, 338), pl. 48—Ex. **6**, 241 (**16**, 9); **12**, 434 (**25**, 484).
— **Fabbrica di motori a gaz di Deutz.** 7 D. 1875. II, **6**, 642 (**16**, 410), pl. 162.
— **Fabbrica di motori a gaz di Deutz.** 19 Je. 1876. II, **7**, 296 (**17**, 248), pl. 71—Ex. **12**, 482 (**26**, 32).
— **Faccioli.** 28 My. 1881. II, **12**, 454 (**26**, 4), pl. 124.
— **Fiddes.** 25 O. 1881. II, **12**, 938 (**26**, 488), pl. 249.
— **Gamba.** 4 N. 1880. II, **11**, 776 (**24**, 377), pl. 225.
— **Gas-Motoren-Fabrik-Deutz.** 12 O. 1881. II, **12**, 896 (**26**, 446), pl. 238.
— **Hock.** 22 My. 1874. II, **5**, 239 (**14**, 348), pl. 53.
— **Ménard.** 13 Jl. 1880. II, **11**, 494 (**24**, 95), pl. 142.
— **Ord.** 19 My. 1881. II, **12**, 428 (**25**, 478), pl. 103.
— **Ord.** 14 D. 1881. II, **12**, 1101 (**27**, 151), pl. 297.
— **Otto.** 12 Mr. 1881. II, **12**, 217 (**25**, 267), pls. 52, 53.
— **Payton e Holmes.** 29 N. 1875. II, **6**, 619 (**16**, 387), pl. 152.
— **Pernot.** 9 Jl. 1879. II, **10**, 450 (**22**, 150), pl. 127.
— **Rabacci.** 7 My. 1868. I, **5**, 125 (**8**, 195), pls. 30, 31.
— **Rossi.** 15 F. 1880. II, **11**, 76 (**23**, 177), pl. 28.
— **Rottger.** 29 Ja. 1872. II, **3**, 28 (**11**, 428), pl. 8.
— **Società per costruzione di macchine, denominata Humboldt.** 12 Ag. 1875. II, **6**, 419 (**16**, 187), pl. 94.
— **Taddei.** 20 Ag. 1877. II, **8**, 493 (**19**, 83), pl. 125.
— **Testud de Beauregard.** 30 N. 1878. II, **9**, 744 (**21**, 99), pl. 226.
— **Torelli.** 25 Je. 1875. II, **6**, 339 (**16**, 107), pl. 74.
— **Turner.** 31 Ja. 1881. II, **12**, 48 (**25**, 98), pl. 11.
— **Wertheim.** 12 Ap. 1877. II, **8**, 200 (**18**, 290), pl. 55—Ex. **9**. 187 (**20**, 42).
— car-propelling. **Purssell.** 14 My. 1880. II, **11**, 304 (**23**, 405), pl. 90.

GAS engine—continued.
— carbon bisulphide. **Blumenberg.** 31 Ja. 1881. II, **12**, 53 (**25**, 103), pl. 11.
— — **Colwell.** 20 F. 1880. II, **11**, 84 (**23**, 185), pls. 32, 33.
— carbon dioxide. **La Loggia.** 31 D. 1858. (**2**, 164.)* (*Sardinia.*)
— explosive. **Anders.** 15 Ag. 1872. II, **3**, 357 (**12**, 257), pl. 93.
— — **Barsanti e Matteucci.** 31 D. 1857. (**2**, 39.) Ad. (**7**, 42).* (*Sardinia.*)—Ex. I, **1**, 173 (**5**, 109).
— — **Barsanti, Matteucci e Barbacci.** 31 D. 1861. (**3**, 141)*—Ex. I, **1**, 174 (**5**, 110).
— — **Berio.** 27 Je. 1876. II, **7**, 306 (**17**, 258), pl. 72. Ad. **8**, 330 (**18**, 420), pl. 89.
— — **Boulton.** 13 O. 1876. II, **7**, 501 (**17**, 454), pl. 125.
— — **Boulton.** 18 S. 1877. II, **8**, 544 (**19**, 134), pl. 137.
— — **Clerk.** 30 N. 1881. II, **12**, 1053 (**27**, 103), pl. 288.
— — **Cohade.** 30 Je. 1860. (**2**, 378.)* (*Sardinia.*)
— — **Cohade.** 30 S. 1860. (**2**, 428.)* (*Sardinia.*)
— — **Etève e Lallemet.** 30 Jl. 1881. II, **12**, 694 (**26**, 244), pl. 177.
— — **Fabrique de moteurs à gaz de Deutz.** 27 Je. 1877. II, **8**, 368 (**18**, 458), pl. 49—Ex. **12**, 481 (**26**, 31).
— — **Fogarty.** 31 D. 1873. II, **4**, 629 (**14**, 109), pl. 173.
— — **Gamba.** 4 N. 1880. II, **11**, 776 (**24**, 377), pl. 225.
— — **Gastaldi.** 15 D. 1871. II, **2**, 456 (**11**, 378), pl. 95.
— — **Geisenberger.** 6 D. 1881. II, **12**, 1071 (**27**, 121), pl. 293.
— — **Heinson-Huch e Windhausen.** 30 S. 1862. (**3**, 314)*—Ex. I, **1**, 380 (**5**, 317), pl. 65.
— — **Hugon.** 7 O. 1865. I, **2**, 271 (**6**, 255), pl. 77—Ex. **5**, 359 (**8**, 430).
— — **Körting e Lieckfeld.** 31 Ag. 1881. II, **12**, 800 (**26**, 350), pls. 210, 211.
— — **Langen ed al.** 21 Ap. 1866. I, **3**, 104 (**6**, 430), pl. 34—Ex. II, **2**, 99 (**11**, 21); **3**, 162 (**12**, 62).
— — **Pasquale e Parodi.** 26 F. 1879. II, **10**, 92 (**21**, 292), pl. 27.
— — **Schmidt e Schwarz.** 30 Mr. 1878. II, **9**, 180 (**20**, 35), pl. 45.
— — **Spinelli e Schiavi.** 30 Je. 1858. (**2**, 108.)* (*Sardinia.*)
— — **Viglino e Donna.** 24 My. 1876. II, **7**, 255 (**17**, 207), pl. 60.
— — **Wertheim.** 9 N. 1876. II, **6**, 543 (**17**, 496), pl. 138.
— — **Wilden e Cliff.** 23 O. 1880. II, **11**, 740 (**24**, 341), pl. 214.
— ignition. **Fabbrica di motori a gaz di Deutz.** 30 D. 1878. II, **9**, 796 (**21**, 151), pl. 238.
— sulphurous anhydride. **Schultz.** 10 N. 1880. II, **11**, 792 (**24**, 393), pl. 228. Ad. **11**, 887 (**24**, 488).
extracting from hydrocarbons. **Marchisio.** 31 Mr. 1865. I, **2**, 99 (**6**, 83), pl. 23.
extracting, wood and peat. **Le Roux.** 17 Ag. 1854. 99.* (*Sardinia.*)
fixture. **Donati e Torti.** 30 S. 1874. II, **5**, 461 (**15**, 70), pl. 108.
flame measurer. **Trevisan.** 1 My. 1872. II, **3**, 182 (**12**, 82), pl. 50.
furnace. **Eggers.** 31 Mr. 1882. II, **13**, 258 (**28**, 30), pl. 68.
— **Perrot.** 14 Mr. 1868. I, **5**, 41 (**8**, 111), pl. 11—Ex. **6**, 71 (**9**, 87).
— **Thiollier e Laurent.** 9 Jl. 1879. II, **10**, 436 (**22**, 136).
generating from water, motive. **Bradley.** 30 D. 1876. II, **7**, 634 (**18**, 87), pl. 160.
generating furnace. **Henning.** 11 O. 1870. II, **1**, 374 **10**, 374), pl. 97.
generator. **Dupré.** 30 S. 1866. I, **3**, 217 (**7**, 43), pl. 63.
— **Guidi.** 8 Je. 1877. II, **8**, 321 (**18**, 411), pl. 88. Ad. **9**, 18 (**19**, 373), pl. 3.
— **Paillard.** 31 Ag. 1878. II, **9**, 542 (**20**, 397), pl. 164.
— **Società metallurgica per l' esperimento dei procedimenti Ponsard.** 20 Ap. 1872. II, **3**, 168 (**12**, 68), pl. 47. Ad. **3**, 221 (**12**, 121), pl. 62.
— **Stirnemann e Comp.** 20 F. 1877. II, **8**, 66 (**18**, 156), pls. 19, 20.
— carbonic acid. **Guéret frères.** 25 Jl. 1878. II, **9**, 473 (**20**, 328), pl. 142.

GAS—continued.
hydrocarbon manufacture. **Salmon.** 30 Je. 1856. (**1**, 226.)* (*Sardinia.*)
— **Schaffer e Walcker.** 30 S. 1861. (**3**, 120.)*
— **Stephan.** 30 Mr. 1878. II, **9**, 169 (**20**, 24). Ad. **10**, 236 (**21**, 436).
hydrogen, manufacture. **Redaelli e Bosio.** 12 Ap. 1877. II, **8**, 197 (**18**, 287), pl. 54.
illuminating. **Aimerito.** 31 D. 1862. (**3**, 402.)*
— **Belmondo, Ferrando e Raimondo.** 30 S. 1860. (**2**, 429.)* (*Sardinia.*)
— **de Gyra.** 28 My. 1881. II, **12**, 452 (**26**, 2).
— **Lucca.** 18 Ap. 1877. II, **8**, 201 (**18**, 291).
— **Miani.** 30 Je. 1855. (**1**, 47.)* (*Sardinia.*)
— **Pizzarelli.** 14 Ag. 1874. II, **5**, 397 (**15**, 6), pl. 90.
— **Severino.** 30 Je. 1874. II, **5**, 327 (**14**, 436), pl. 76.
— apparatus. **Fage.** 31 Mr. 1864. (**4**, 144.)*
— — **Giuliani.** 30 S. 1855. (**1**, 66.)* (*Sardinia.*)
— — **Smyers.** 29 N. 1879. II, **10**, 792 (**22**, 492), pl. 218.
— carburetting. **Livesey, Kidd e Kidd.** 16 N. 1878. II, **9**, 688 (**21**, 43), pl. 210.
— condenser and purifier. **Schener.** 25 Ap. 1878. II, **9**, 236 (**20**, 91), pl. 59.
— consuming, low pressure. **Ducloz.** 31 Mr. 1863. (**3**, 456.)* Ad. (**1**, 130).
— economizing apparatus. **Scarselli e Pollastrini.** 31 Jl. 1880. II, **11**, 521 (**24**, 122), pl. 148.
— furnace. **Hémery.** 20 F. 1875. II, **6**, 71 (**15**, 339), pl. 16.
— generator. **Arbos.** 31 D. 1862. (**3**, 411)*—Ex. I, **1**, 248 (**5**, 184).
— manufacture. **Aitken.** 21 Ap. 1875. II, **6**, 197 (**15**, 465), pl. 40—Ex. **7**, 201 (**17**, 153). Ad. **8**, 557 (**19**, 147).
— — **Aitken e Young.** 7 Jl. 1876. II, **7**, 330 (**17**, 282), pl. 79—Ex. **8**, 438 (**19**, 28).
— — **Allaire.** 13 Ja. 1875. II, **6**, 19 (**15**, 287), pl. 3.
— — **Andreani.** 31 Mr. 1855. (**1**, 139.)* (*Sardinia.*)
— — **Attrill e Farmer.** 20 F. 1880. II, **11**, 74 (**23**, 175), pls. 25, 26.
— — **Aube.** 27 N. 1877. II, **8**, 681 (**19**, 271), pl. 179. Ad. **9**, 431 (**20**, 286), pl. 126.
— — **Aube.** 15 S. 1879. II, **10**, 596 (**22**, 296), pls. 169, 170.
— — **Aube.** 30 S. 1880. II, **11**, 688 (**24**, 289), pl. 200.
— — **Berland.** 31 Ag. 1881. II, **12**, 802 (**26**, 352), pl. 211.
— — **Bois.** 30 S. 1873. II, **4**, 470 (**13**, 450), pl. 134.
— — **Bonzanini.** 31 Mr. 1861. (**2**, 496)*—Ex. I, **1**, 89 (**5**, 25).
— — **Boverton.** 22 Ag. 1876. II, **7**, 422 (**17**, 374).
— — **Bower.** 30 S. 1859. (**2**, 285.)* (*Sardinia.*)
— — **Bower.** 30 Je. 1861. (**3**, 34)*—Ex. I, **1**, 172 (**5**, 108).
— — **Brillo.** 15 S. 1874. II, **5**, 454 (**15**, 63), pl. 108.
— — **Chambeaux.** 21 D. 1872. II, **3**, 562 (**12**, 462), pl. 135.
— — **Copcutt.** 31 Mr. 1860. (**2**, 310.)* (*Sardinia.*)
— — **Dixon.** 13 Ag. 1881. II, **12**, 746 (**26**, 296), pl. 194.
— — **Dowson.** 12 Jl. 1879. II, **10**, 460 (**22**, 160), pl. 127—Ex. **12**, 146 (**25**, 196); **12**, 639 (**26**, 189).
— — **Dowson.** 7 Mr. 1882. II, **13**, 164 (**27**, 436), pl. 45.
— — **Dubois.** 21 D. 1872. II, **3**, 559 (**12**, 459), pl. 135.
— — **Duchesne.** 30 S. 1875. II, **6**, 530 (**16**, 298), pl. 129.
— — **Ducloz.** 14 Jl. 1864. I, **1**, 340 (**5**, 277).
— — **Dullens.** 30 Jl. 1866. I, **3**, 189 (**7**, 15). Ad. **4**, 141 (**7**, 281)—Ex. **4**, 387 (**8**, 28).
— — **Dwight.** 31 D. 1879. II, **10**, 897 (**23**, 97), pl. 253—Ex. **11**, 903 (**25**, 4).
— — **Favier.** 31 D. 1855. (**1**, 129.)* (*Sardinia.*)
— — **Ferrario.** 17 Ja. 1878. II, **9**, 3 (**19**, 358), pl. 2—Ex. **9**, 406 (**20**, 205).
— — **de Fiers, Loir-Montgazon et Ckiandi.** 31 D. 1855. (**1**, 112.)* (*Sardinia.*)
— — **de Foresta et Le Roux.** 31 D. 1855. (**1**, 113.)* (*Sardinia.*)
— — **de Foresta.** 30 Je. 1857. (**1**, 391.)* Ad. (**1**, 48). (*Sardinia.*)
— — **Gapiand.** 26 Jl. 1880. II, **11**, 508 (**24**, 109), pl. 145.
— — **Gaumont et fils.** 31 D. 1875. II, **6**, 684 (**16**, 452), pl. 173.
— — **Gourd.** 31 Mr. 1881. II, **12**, 256 (**25**, 306), pl. 61.

GAS, illuminating, manufacture—continued.
— — **Guigue.** 5 Je. 1869. I, **6**, 229 (**9**, 245), pls. 74, 75.
— — **Harrison.** 14 F. 1873. II, **4**, 72 (**13**, 52), pl. 20.
— — **Hunter.** 14 N. 1874. II, **5**, 554 (**15**, 163), pl. 130.
— — **Isoard.** 30 Je. 1858. (**2**, 79.)* (*Sardinia.*)
— — **Isoard.** 31 Mr. 1864. (**4**, 179)*—Ex. I, **1**, 129 (**5**, 65).
— — **Knab.** 30 S. 1857. (**1**, 486.)* (*Sardinia.*)
— — **Krause.** 14 My. 1873. II, **4**, 219 (**13**, 199), pl. 59—Ex. **5**, 503 (**15**, 112).
— — **Lafrogne.** 17 Jl. 1869. I, **6**, 286 (**9**, 302), pl. 95—Ex. II, **2**, 6 (**10**, 428).
— — **de La Motte.** 29 My. 1875. II, **6**, 269 (**16**, 37).
— — **Louttit.** 24 Ap. 1876. II, **7**, 207 (**17**, 159), pl. 48.
— — **Malam.** 20 F. 1875. II, **6**, 74 (**15**, 342), pl. 16.
— — **Mappin.** 15 O. 1873. II, **4**, 510 (**13**, 490), pl. 137.
— — **Marini.** 31 Mr. 1861. (**2**, 480.)*
— — **Mathiesen.** 28 Mr. 1875. II, **6**, 123 (**15**, 391), pl. 24—Ex. **7**, 171 (**17**, 123). Ad. **8**, 209 (**18**, 299), pl. 57.
— — **Müller e Eichelbrenner.** 20 Mr. 1872. II, **3**, 102 (**12**, 2), pl. 29—Ex. **9**, 158 (**20**, 13).
— — **Müller, Pujol, Jaubert et Allar.** 30 D. 1856. (**1**, 316.)* (*Sardinia.*)
— — **Otto.** 31 My. 1881. II, **12**, 467 (**26**, 17), pl. 119.
— — **Pasinati.** 11 D. 1873. II, **4**, 583 (**14**, 63), pl. 161.
— — **Pasinati.** 5 Ap. 1876. II, **7**, 165 (**17**, 117), pl. 38.
— — **Paszkowski.** 7 Jl. 1866. I, **3**, 162 (**6**, 488), pl. 51.
— — **Piaton.** 22 My. 1866. I, **3**, 127 (**6**, 453), pl. 43.
— — **Picot de la Peyrouse.** 5 Mr. 1877. II, **8**, 99 (**18**, 189), pl. 27.
— — **Prost.** 10 F. 1865. I, **2**, 45 (**6**, 29), pl. 6.
— — **Roettger et Hovve.** 31 O. 1879. II, **10**, 714 (**22**, 414), pl. 192.
— — **Société universelle de fabrication des produits propres à l'éclairage et au chauffage.** 4 Ag. 1874. II, **5**, 370 (**14**, 479).
— — **Sulzer frères.** 16 O. 1878. II, **9**, 611 (**20**, 466), pl. 193.
— — **Tézenas du Montcel.** 22 Je. 1881. II, **12**, 552 (**26**, 102), pl. 138.
— — **Timofieff.** 19 Je. 1878. II, **9**, 395 (**20**, 250), pls. 114, 115.
— — **Vincent.** 27 O. 1873. II, **4**, 528 (**14**, 8), pl. 146.
— — **Visibelli.** 30 Je. 1863. (**3**, 473.)*
— — **West.** 11 D. 1873. II, **4**, 585 (**14**, 65), pl. 162.
— — and bone-black. **Deforesta.** 30 Je. 1859. (**2**, 228.)* (*Sardinia.*)
— — and oil. **Galy-Cazalat.** 31 Mr. 1858. (**2**, 210.)* (*Sardinia.*)
— — and purifying. **Eveleigh.** 25 O. 1871. II, **2**, 372 (**11**, 294), pl. 83.
— — and steel. **Società Aube's Steel and Gas Company.** 3 Mr. 1881. II, **12**, 754 (**25**, 204).
— — apparatus. **Böhm.** 24 S. 1881. II, **12**, 838 (**26**, 388), pls. 226, 227.
— — — **Deleau e la Société Hubert frères.** 14 My. 1881. II, **12**, 423 (**25**, 473), pl. 102.
— — — **Gadaden.** 25 Mr. 1878. II, **9**, 152 (**20**, 7), pl. 39—Ex. **10**, 70 (**21**, 270); **11**, 122 (**23**, 223).
— — — **Langen.** 31 My. 1881. II, **12**, 472 (**26**, 22), pl. 121.
— — — **Mertz.** 20 Ap. 1881. II, **12**, 337 (**25**, 387), pl. 79.
— — — **Schreiber.** 31 Ja. 1879. II, **10**, 21 (**21**, 221), pl. 7.
— — from animal refuse. **Anthony.** 18 Mr. 1879. II, **10**, 120 (**21**, 320), pl. 43.
— — from coffee waste. **Bolmida.** (**2**, 45.)* (*Sardinia.*)
— portable. **Lori.** 27 Je. 1876. II, **7**, 314 (**17**, 266).
— — apparatus. **Müller.** 18 O. 1878. II, **9**, 625 (**20**, 480), pl. 196.
— purifier. **Kloenne.** 31 Ag. 1878. II, **9**, 541 (**20**, 396), pls. 166, 167.
— purifying. **de Foresta.** 7 Jl. 1866. I, **3**, 168 (**6**, 494). Ad. **4**, 18 (**7**, 157).
— — **Mallet.** 21 S. 1876. II, **7**, 462 (**17**, 414).
— regenerator. **Liebich.** 20 F. 1878. II, **9**, 91 (**19**, 446), pl. 22.
impregnating. **Ungerer.** 14 My. 1873. II, **4**, 120 (**13**, 200), pl. 59.
leak indicator. **Maccaud.** 30 S. 1856. (**1**, 238.)* (*Sardinia.*)

GAS—continued.
light intensifying. **Clamond.** 23 Je. 1881. II, **12**, 570 (**26**, 120), pl. 141.
— wire gauze. **Gafafer et Willy.** 31 Mr. 1862. (**3**, 186.)*
lighter. **Chandor.** 4 Ag. 1874. II, **5**, 365 (**14**, 474), pl. 84.
— **Effer.** 31 My. 1878. II, **9**, 340 (**20**, 195), pl. 94. Ad. **11**, 192 (**23**, 293), pl. 56—Ex. **12**, 620 (**26**, 170.)
— **Fallaci.** 19 Je. 1880. II, **11**, 401 (**24**, 2), pl. 116.
— **Léonard.** 9 Mr. 1876. II, **7**, 104 (**17**, 56), pl. 26.
lighting. **Westphal.** 28 F. 1880. II, **11**, 113 (**23**, 214), pl. 39.
— apparatus. **Korwan e Flürsheim.** 14 Je. 1873. II, **4**, 276 (**13**, 256), pl. 71.
— electric. **Bancroft.** II, **12**, 80 (**25**, 130), pl. 20.
— — **Clarke e Leigh.** 14 Ap. 1882. II, **13**, 321 (**28**, 93), pl. 86.
— — **Fox.** 10 Ag. 1877. II, **8**, 467 (**19**, 57), pl. 120.
— — **de Oldershausen.** 30 Je. 1873. II, **4**, 312 (**13**, 292), pl. 84.
— — **Tadisi.** 29 N. 1875. II, **6**, 604 (**16**, 372), pl. 145.
— — **Walcker.** 26 Jl. 1871. II, **2**, 237 (**11**, 159), pl. 50.
manufacture. **Allan.** 1 My. 1872. II, **3**, 176 (**12**, 76), pl. 49.
— **Caranza et Cie.** 30 Je. 1857. (**1**, 395.)* (*Sardinia.*)
— **Fogarty.** 10 N. 1873. II, **4**, 540 (**14**, 20), pl. 150—Ex. **6**, 31 (**15**, 299).
— **Grickson e Maardt.** 11 Je. 1874. II, **5**, 268 (**14**, 377), pl. 60.
— **Hirzel.** 25 S. 1873. II, **4**, 461 (**13**, 441), pl. 131.
— **Lafond.** 13 Jl. 1872. II, **3**, 317 (**12**, 217), pl. 81.
— **Maring e Mertz.** 20 Ap. 1872. II, **3**, 178 (**12**, 73), pl. 48.
— **Martin.** 22 S. 1873. II, **4**, 460 (**13**, 440). Ad. **4**, 489 (**13**, 469).
— **Porter e Lane.** 7 S. 1872. II, **3**, 409 (**12**, 309), pl. 99.
— **Ronbandi.** 16 My. 1852. 28.* (*Sardinia.*)
— **Rouillé.** 20 Ap. 1872. II, **3**, 169 (**12**, 69), pl. 48.
— **Ruck.** 29 Mr. 1873. II, **4**, 134 (**13**, 114), pl. 36.
— **Selmie.** 15 My. 1854. 79.* (*Sardinia.*)
— **Thomas e Caffall.** 23 Je. 1873. II, **4**, 300 (**13**, 280), pl. 80. Ad. **5**, 278 (**14**, 387), pl. 63.
— **Venini.** 28 N. 1873. II, **4**, 564 (**14**, 44), pl. 158—Ex. **8**, 7 (**18**, 97); **11**, 58 (**23**, 159).
— **Westermann fratelli.** 21 N. 1852. 38.* (*Sardinia.*)
— and coke. **Cox.** 30 S. 1857. (**1**, 458).* (*Sardinia.*)
— apparatus. **Grouvat.** 28 Ja. 1874. II, **5**, 29 (**14**, 138), pl. 3.
— from coal, etc. **Engelhorn ed al.** 11 Mr. 1869. I, **6**, 90 (**9**, 106).
— from grape-cake and using residue for making dye. **Ilgen.** 26 Mr. 1867. I, **4**, 93 (**7**, 233).
— from oils. **Colacicchi.** 6 N. 1867. I, **4**, 363 (**8**, 4), pl. 114. Ad. **5**, 140 (**8**, 210), pl. 35—Ex. **5**, 196 (**8**, 266).
— from petroleum. **Domingo.** 4 S. 1866. I, **3**, 276 (**7**, 102).
— — **Gaida e Zuppardi.** 19 S. 1878. II, **9**, 572 (**20**, 427), pl. 174.
— — **Hirzel.** 15 Je. 1867. I, **4**, 194 (**7**, 334), pl. 67.
— furnace. **Müller e Eichelbrenner.** 20 Mr. 1872. II, **3**, 103 (**12**, 3), pl. 28.
— — **Skoines.** 30 N. 1873. II, **4**, 574 (**14**, 56), pl. 155.
meter. **Barberis.** 5 Je. 1869. I, **6**, 231 (**9**, 247), pl. 44.
— **Bove.** 30 Je. 1861. (**3**, 82.)*
— **Brunt.** 31 Mr. 1862. (**3**, 233.)*
— **Brunt.** 29 My. 1875. II, **6**, 272 (**16**, 40), pl. 60.
— **Casalonga.** 30 S. 1874. II, **5**, 464 (**15**, 73), pl. 108.
— **de Castro e Burton.** 10 S. 1873. II, **4**, 433 (**13**, 413), pl. 116.
— **Chameroy.** 16 Je. 1868. I, **5**, 205 (**8**, 275), pl. 62.
— **Compagnie anonyme continentale des compteurs à gaz.** 28 Je. 1878. II, **9**, 400 (**20**, 255), pl. 117.
— **Falconetti.** 18 Je. 1879. II, **10**, 380 (**22**, 80), pl. 107.
— **Francione.** 16 S. 1872. II, **3**, 425 (**12**, 325), pl. 104.
— **Fry.** 22 Ja. 1872. II, **3**, 16 (**11**, 416), pl. 5. Ad. **3**, 142 (**12**, 42), pl. 38.
— **Haas.** 18 Jl. 1878. II, **9**, 446 (**20**, 301), pl. 132—Ex. **10**, 439 (**22**, 139).
— **Kaiser.** 21 D. 1880. II, **11**, 881 (**24**, 482), pl. 254.

GAS meter—continued.
— **Klingmüller.** 6 Jl. 1877. II, **8**, 379 (**18**, 469), pls. 102, 103.
— **Moy.** 30 N. 1874. II, **5**, 580 (**15**, 189), pl. 137.
— **Robertson.** 19 Ag. 1873. II, **4**, 393 (**13**, 273), pl. 103.
— **Scholte.** 19 Je. 1865. I, **2**, 178 (**6**, 162), pl. 52.
— **Siry-Lizars et Cie.** 20 F. 1878. II, **9**, 92 (**19**, 447), pl. 25.
— **Société Nicolas, Charnon e Rouget.** 17 S. 1875. II, **6**, 486 (**16**, 254), pl. 117.
— **Telling.** 10 S. 1873. II, **4**, 432 (**13**, 412), pl. 117.
— and engine. **Oury.** 20 Mr. 1869. I, **6**, 102 (**9**, 118), pl. 30. Ad. **6**, 481 (**9**, 497), pl. 153; II, **1**, 231 (**10**, 231), pl. 58.
pipe. **Lossa.** 21 Mr. 1874. II, **5**, 113 (**14**, 222), pl. 24—Ex. **7**, 141 (**17**, 93); **10**, 135 (**21**, 335); **13**, 283 (**28**, 55).
portable. **Bene.** 30 S. 1857. (**1**, 432.)* (*Sardinia.*)
power increasing vapor generator. **Mongruel.** 30 S. 1862. (**3**, 299.)*
pressure regulator. **Giraud.** 31 Mr. 1863. (**4**, 2)*—Ex. I, **5**, 248 (**8**, 318).
— **Lechler.** 26 Ap. 1879. II, **10**, 244 (**21**, 444), pl. 64.
purifier. **Davico.** 28 Ap. 1868. I, **5**, 85 (**8**, 155).
— apparatus. **Croll.** 31 Mr. 1864. (**4**, 187)*—Ex. I, **1**, 246 (**5**, 182).
purifying obturator. **Faltoni.** 28 Ag. 1878. II, **9**, 530 (**20**, 385), pl. 157.
purifying of ammonia. **Philippe.** 4 Mr. 1870. II, **1**, 78 (**10**, 78).
receiver. **Weigert.** 20 F. 1880. II, **11**, 70 (**23**, 171), pl. 24.
— pipe arrangement. **Somzé.** 14 S. 1865. I, **2**, 245 (**6**, 229), pl. 67.
— tar. **Negroni.** 4 Ja. 1869. I, **6**, 1 (**9**, 17), pl. 5.
retort. **Foerster.** 13 Ag. 1880. II, **11**, 547 (**24**, 148), pl. 150.
— **Gaumont.** 24 D. 1874. II, **5**, 621 (**15**, 230), pl. 150—Ex. **8**, 737 (**19**, 327).
— **Hirzel.** 10 N. 1877. II, **8**, 641 (**19**, 231), pl. 166.
— earthenware. **Fava.** 26 Mr. 1867. I, **4**, 87 (**7**, 227), pl. 28.
— fastening. **Descosse.** 31 Mr. 1858. (**2**, 35.)* (*Sardinia.*)
— furnace. **Société générale de métallurgie pour les procédés Ponsard.** 14 Je. 1873. II, **4**, 277 (**13**, 257), pl. 73.
— heating. **Imperatori e Klönne.** 25 Mr. 1878. II, **9**, 144 (**19**, 499), pl. 36.
— pressure relieving. **Dessirier.** 12 D. 1879. II, **10**, 825 (**23**, 25), pl. 232.
separator. **Braun.** 7 D. 1875. II, **6**, 639 (**16**, 407), pl. 141.
transporting apparatus. **Hugon.** 30 Je. 1856. (**1**, 216.)* (*Sardinia*)—Ex. I, **1**, 278 (**5**, 214).
velocipede. **Murnigotti.** 22 F. 1879. II, **10**, 84 (**21**, 284), pl. 25.
water. **Maire et Vallée.** 30 Je. 1860. (**2**, 394.)* (*Sardinia.*)
— **Dehaynin.** 12 Jl. 1879. II, **10**, 468 (**22**, 168), pl. 130.
— generator. **Foote ed al.** 19 Ap. 1867. I, **4**, 129 (**7**, 269), pl. 41.
— illuminating apparatus. **Le Prince et frères.** 30 Je. 1856. (**1**, 199.)* (*Sardinia.*)
— manufacture. **Dwight.** 29 Ap. 1882. II, **13**, 368 (**28**, 140), pl. 96.
— — **Hugon.** 31 Mr. 1863. (**3**, 500)*—Ex. I, **1**, 279 (**5**, 512).

GATE. *See* Railway.
GATEWAY operating. **Gégnon.** 17 N. 1875. II, **6**, 597 (**16**, 365), pl. 146.
GEAR WHEEL cutting machine, bevel. **Smith et Course.** 10 D. 1877. II, **8**, 708 (**19**, 298), pl. 186—Ex. **9**, 795 (**21**, 150); **10**, 899 (**23**, 99); **11**, 918 (**25**, 19).
GEARING. **Baravelli.** 14 O. 1869. I, **6**, 379 (**9**, 395), pl. 126.
Marzari. 18 Mr. 1879. II, **10**, 137 (**21**, 337), pl. 37—Ex. **11**, 380 (**23**, 481).
wedge. **Wedge Gearing Society(?).** 3 Ag. 1854. 92.* (*Sardinia.*)
GELATINE bleaching. **Carletti.** 5 O. 1872. II, **3**, 450 (**12**, 350), pl. 109.
extracting. 31 D. 1880. **Forno.** II, **11**, 904 (**25**, 5).

GELATINE extracting—continued.
— apparatus. **Malvezzi.** 22 Jl. 1876. II, **7**, 351 (**17**, 302).
manufacture. **Hagen e Seltsam.** 9 N. 1881. II, **12**, 985 (**27**, 35).
vitrifying. **Salvy.** 7 F. 1879. II, **10**, 57 (**21**, 257).
GENERATOR. *See* Gas, Gas illuminating.
GEOMETRIC INSTRUMENT. **Donato.** 19 Je. 1872. II, **3**, 259 (**12**, 159), pl. 72.
GERMINATING APPARATUS. **Zboril.** 20 Ag. 1874. II, **5**, 414 (**15**, 23), pl. 97.
GILDING on iron and steel. **Thompson.** 24 N. 1868. I, **5**, 367 (**8**, 438).
on metal. **Dodé.** 15 S. 1879. II, **10**, 607 (**22**, 307).
on non-amalgamable metals. **Dufresne.** 30 S. 1856. (**1**, 246.)* (*Sardinia.*)
GIMLET. **Foresti.** 10 N. 1877. II, **8**, 640 (**19**, 230), pl. 169—Ex. **11**, 799 (**24**, 400).
Kolp. 7 Ap. 1866. I, **3**, 97 (**6**, 423), pl. 29.
GIMP MACHINE. **Basset.** 31 N. 1862. (**3**, 327.) Ad. (**1**, 107)*—Ex. I, **1**, 196 (**5**, 132).
Mégraud. 21 Jl. 1864. I, **1**, 354 (**5**, 291), pls. 60–62. Ad. **1**, 399 (**5**, 336), pl. 42.
GIRDER. *See also* Bridge, Iron.
clamp. **Trevisani.** 10 F. 1871. II, **2**, 31 (**10**, 453), pl. 7.
iron. **Pereira di Carvalho.** 18 Mr. 1872. II, **3**, 94 (**11**, 494), pl. 29. Ad. **3**, 466 (**12**, 366), pl. 111.
— **Société nouvelle de constructions, système Tollet.** 12 O. 1881. II, **12**, 901 (**26**, 451), pl. 241.
GLASS, annealing. **Royer de la Bastie.** 24 My. 1876. II, **7**, 262 (**17**, 214), pl. 60.
— **Siemens.** 29 O. 1877. II, **8**, 629 (**29**, 219), pls. 155, 156.
— furnace. **Richarme.** 27 F. 1877. II, **8**, 89 (**18**, 149), pl. 24.
— — **Royer de la Bastie.** 20 Ag. 1874. II, **5**, 415 (**15**, 24), pl. 98. Ad. II, **6**, 423 (**16**, 191), pl. 95.
bead polisher. **Bassano et Cie.** 10 O. 1867. I, **4**, 333 (**7**, 474), pl. 103.
— **Zecchin et Cie.** 10 O. 1867. I, **4**, 335 (**7**, 476), pl. 104—Ex. II, **1**, 400 (**10**, 400).
bead polishing machine. **Ceresa.** 2 S. 1868. I, **5**, 311 (**8**, 381), pl. 92.
bead separator. **Zecchin.** 26 D. 1867. I, **4**, 414 (**8**, 55), pl. 125.
beads. **Versepuy.** 13 D. 1867. I, **4**, 398 (**8**, 39).
— rolling. **Frigo.** 14 My. 1867. (Austrian patent 29 D. 1862.) I, **4**, 152 (**7**, 292), pl. 45—Ex. **4**, 153 (**7**, 293); **4**, 154 (**7**, 294).
— tube-cutter for. **Sola.** 15 My. 1867. (Austrian patent 3 Ap. 1865.) I, **4**, 164 (**7**, 304), pl. 50—Ex. **4**, 165, 166 (**7**, 305, 306).
— — **Zecchin.** 8 Je. 1867. I, **4**, 181 (**7**, 321), pl. 63—Ex. **4**, 182, 231 (**7**, 322, 371).
— uranium colors for. **Giacomuzzi.** 6 My. 1867. I, **4**, 150 (**7**, 290)—Ex. **5**, 137 (**8**, 207); **6**, 147 (**9**, 163).
bending, annealing, varnishing, painting machine. **Thompson.** 24 F. 1882. II, **13**, 128 (**27**, 400), pl. 40.
black opaque, from quartz. **Cesari.** 5 Jl. 1864. I, **1**, 332 (**5**, 268).
bronzing. **Bottger.** 23 Ag. 1878. II, **9**, 523 (**20**, 378).
clarifying. **Siemens.** 31 D. 1878. II, **9**, 845 (**21**, 200), pl. 247.
cutter. **Lerescher-Golay.** 3 Je. 1875. II, **6**, 280 (**16**, 48), pl. 61.
cutting. **Ottino.** 8 My. 1877. II, **8**, 260 (**18**, 350), pl. 73.
— **Trevisan.** 27 Je. 1876. II, **7**, 307 (**17**, 259). Ad. **7**, 578 (**18**, 31), pl. 151.
— machine. **Romiti.** 23 D. 1867. I, **4**, 403 (**8**, 44), pls. 121–124.
— — **Volpp.** 31 Ag. 1881. II, **12**, 786 (**26**, 336), pl. 207.
— sawing, drilling, and grinding. **Tilghman.** 21 D. 1872. II, **3**, 563 (**12**, 463)—Ex. **7**, 12 (**16**, 464).
for parts of machines. **Cima.** 31 D. 1861. (**3**, 250.)*
furnace. **Arimondi.** 12 D. 1872. II, **3**, 535 (**12**, 435), pl. 129. Ad. **4**, 237 (**13**, 207), pl. 63.
— **Gérard.** 18 Ap. 1879. II, **10**, 221 (**21**, 421), pl. 63.
— **Henning.** 11 O. 1870. II, **1**, 374 (**10**, 374), pl. 97.
— **Picone.** 14 D. 1881. II, **12**, 1093 (**27**, 143), pl. 293.
— **Sevoulhe.** 10 F. 1865. I, **2**, 47 (**6**, 31), pl. 9.
— **Siemens.** 7 F. 1877. II, **8**, 58 (**18**, 148), pl. 16.

GLASS furnace—continued.
— **Velluz.** 31 D. 1859. (**2**, 316.)* (*Sardinia.*)
— **Zecchin fratelli.** 9 N. 1881. II, **12**, 987 (**27**, 37), pl. 265. Ad. **13**, 154 (**27**, 426), pl. 37.
— float. **Società Vetraria Veneto-Trentina.** 10 Ag. 1881. II, **12**, 738 (**26**, 288), pl. 193.
— heating by coke-kiln heat. **Salmon.** 30 Je. 1856. (**1**, 225.)* (*Sardinia.*)
— — **Salmon.** 30 Je. 1856. (**1**, 227.) Ad. (**1**, 13).* (*Sardinia.*)
grinding machine. **Brusotti.** 31 D. 1862. (**3**, 400.)*
hardening. **Siemens.** 3 F. 1881. II, **12**, 65 (**25**, 115), pl. 19.
kiln. **Venini.** 31 D. 1856. (**1**, 355.) Ad. (**1**, 19)—Ex. (**1**, 21.)* (*Sardinia.*)
manufacture. **Britten.** 11 Jl. 1876. II, **4**, 341 (**14**, 293).
— **Cornut.** 20 Je. 1850. 8.* (*Sardinia.*)
— **Schön.** 15 Jl. 1881. II, **12**, 616 (**26**, 166), pls. 150, 151.
— **Zuccherini.** 29 N. 1875. II, **6**, 609 (**16**, 377).
— for mosaic. **De Koepff.** 28 O. 1868. I, **5**, 356 (**8**, 427), pls. 109, 110.
— — **Jesurum.** 16 Je. 1868. I, **5**, 208 (**8**, 278).
— trachyte sand of Sinigaglia for. **Zuccoli fratelli.** 16 Je. 1869. I, **6**, 244 (**9**, 260).
melting furnace. **Dall' Orto.** 30 Je. 1855. (**1**, 19.)* (*Sardinia.*)
— **Quennec.** 4 S. 1880. II, **12**, 606 (**24**, 207), pl. 172. Ad. **12**, 384 (**25**, 434), pl. 95.
— **Schinz.** 30 S. 1860. (**2**, 406.)* (*Sardinia.*)
mold. **Max.** 31 D. 1879. II, **10**, 900 (**23**, 100), pl. 251—Ex. **12**, 1157 (**27**, 207).
ornamenting. **Baex et Cie.** 30 S. 1860. (**2**, 409.)* (*Sardinia.*)
— **Gusberti.** 25 O. 1881. II, **12**, 952 (**27**, 2).
— **Nerini.** 28 Ag. 1877. II, **8**, 517 (**19**, 107).
— **Parravicini.** 19 Je. 1880. II, **11**, 407 (**24**, 8).
— sand-blast. **Wurz.** 24 D. 1878. II, **9**, 784 (**21**, 139).
— with lead salts. **Chiado.** 23 Ag. 1872. II, **3**, 374 (**12**, 274).
plates and shades in Pontifical states, Privilege of manufacturing. **Bernardini.** (P. G.) 24 Mr. 1856(?). I, **1**, 446 (**5**, 383).
stamping. **Spreafico.** 15 S. 1876. II, **7**, 450 (**17**, 402)—Ex. **10**, 669 (**22**, 369).
tube cutter. **Ducornet.** 10 Ag. 1868. I, **5**, 280 (**8**, 350), pl. 82.
tube grinding machine. **de Koepff.** 23 O. 1868. I, **5**, 357 (**8**, 428), pl. 106.
tube mold. **Ceresa.** 22 F. 1867. I, **4**, 72 (**7**, 211), pl. 25.
untempered. **Deherrypon.** 14 O. 1879. II, **10**, 677 (**22**, 377). Ad. **10**, 744 (**22**, 444).
ware incrusting. **Vallette.** 16 Mr. 1880. II, **11**, 142 (**23**, 243), pl. 46.
GLAZING pottery-ware. **Boulton ed al.** 23 Ag. 1865. I, **2**, 224 (**6**, 208), p. 59.
GLOVE. **Bossi.** 23 Je. 1871. II, **2**, 187 (**11**, 109), pl. 34.
Bossi. 1 My. 1872. II, **3**, 184 (**12**, 84), pl. 50.
cut. **Grange.** 30 S. 1861. (**3**, 102.)*
cutting machine. **Busca.** 30 Je. 1870. II, **1**, 233 (**10**, 233), pl. 56.
fastening. **Wulff.** 31 Jl. 1873. II, **4**, 372 (**13**, 352), pl. 97.
insecticide. **Sabaté.** 9 Ap. 1877. II, **8**, 171 (**18**, 261), pl. 48—Ex. **9**, 176 (**20**, 31).
manufacture. **Baccilieri.** 25 O. 1871. II, **2**, 365 (**11**, 287), pl. 79. Ad. **4**, 126 (**13**, 106), pl. 34.
pattern puncturing. **Grange.** 30 S. 1861. (**3**, 126.)*
GLUCOSE extracting from Jalopa mirabilis. **Moreno.** 30 O. 1874. II, **5**, 527 (**15**, 136).
manufacture. **Johnson.** 7 Jl. 1876. II, **7**, 322 (**17**, 274), pl. 78.
GLUE. **Bonacina.** 12 My. 1879. II, **10**, 278 (**21**, 478)
boiler. **Colombo e Massa.** 14 My. 1880. II, **11**, 312 (**23**, 413), pl. 91.
extracting from bones. **Coen.** 3 D. 1866. I, **3**, 259 (**7**, 85), pl. 70.
fireproof. **Ceroni.** 31 Ja. 1882. II, **13**, 76 (**27**, 348).
manufacture. **Giachery e Comp.** 20 Ja. 1877. II, **8**, 20 (**18**, 110), pl. 5.
— **Taulow.** 8 F. 1878. II, **9**, 44 (**19**, 399).
— fish. **Penney.** 20 Ag. 1880. II, **11**, 581 (**24**, 182)—Ex. **12**, 760 (**26**, 310).

GLUTEN extracting. **Paul fils aîné.** 26 Jl. 1879. II, **10**, 496 (**22**, 196), pl. 139.
GLYCERINE distilling. **Armandy.** 31 D. 1881. II, **12**, 1190 (**27**, 240).
GOLD collecting in placers. **Grisetti.** 7 S. 1872. II, **3**, 410 (**12**, 310), pl. 99.
extracting. **Bazin.** 6 Mr. 1879. II, **10**, 109 (**21**, 309), pl. 33.
— **Crookes.** 19 Jl. 1865. I, **2**, 204 (**6**, 188).
— **Crookes.** 4 N. 1865. I, **2**, 303 (**6**, 287).
— **Designolle.** 12 D. 1879. II, **10**, 817 (**23**, 17), pl. 230.
— **Rössler.** 29 Mr. 1882. II, **13**, 254 (**28**, 26), pl. 68.
— **Ruch.** 31 Ag. 1876. II, **7**, 430 (**17**, 382).
— **Tardani, Ghivelli e Coluzzi.** 15 Ag. 1872. II, **3**, 371 (**12**, 271), pl. 92.
— **Tichenor.** 23 Ap. 1880. II, **11**, 250 (**23**, 351).
— from copper ore. **Designolle.** 30 Ap. 1881. II, **12**, 387 (**25**, 437), pl. 94.
— from lead. **Bério.** 18 O. 1878. II, **9**, 627 (**20**, 482).
— from ore. **Low.** 30 S. 1855. (**1**, 81.)* (*Sardinia.*)
— from refuse. **Ruch.** 26 F. 1876. II, **7**, 82 (**17**, 34).
— from sand. **Arienta.** 29 Je. 1874. II, **5**, 315 (**14**, 424), pl. 73.
ore roasting furnace. **Fryer.** 11 Ja. 1876. II, **7**, 11 (**16**, 463), pl. 1.
ore treating. **Clarke e Smith.** 7 My. 1875. II, **6**, 326 (**15**, 494), pl. 47.
— **Destrem.** 30 D. 1859. (**2**, 306.)* (*Sardinia.*)
— **Primart.** 30 S. 1857. (**1**, 443.)* (*Sardinia.*)
— sulph-antimonide and sulph-arsenide. **de Vauréal.** 20 Ja. 1880. II, **11**, 36 (**23**, 137).
sand treating. **Thénot.** 10 Ag. 1881. II, **12**, 730 (**26**, 280), pl. 87.
sand washer. **Allin e Rivière-Dejean.** 20 F. 1874. II, **5**, 37 (**14**, 166), pl. 9.
sand washing. **Cabella.** 30 Je. 1851. 16.* (*Sardinia.*)
— **Prestrel.** 30 Je. 1858. (**2**, 84.)* (*Sardinia.*)
separating from lead. **Musante.** 2 S. 1868. I, **5**, 315 (**8**, 385). Ad. II, **4**, 501 (**13**, 481)—Ex. **5**, 282 (**14**, 291).
separating from zinc. **Borgo.** 28 Ag. 1873. II, **4**, 415 (**13**, 395).
thread manufacture. **Conti.** 2 Je. 1870. II, **1**, 221 (**10**, 221).
GOVERNOR. **Benech et Thevenet.** 30 S. 1858. (**2**, 178.)* (*Sardinia.*)
Bodemer. 22 F. 1876. II, **7**, 76 (**17**, 28), pls. 19, 20.
Bon. 9 Mr. 1876. II, **7**, 93 (**17**, 44), pl. 23.
Brown. 20 Ap. 1877. II, **8**, 213 (**18**, 303), pls. 58-60—Ex. **9**, 53 (**19**, 403).
Buss frères et Cie. 18 My. 1876. II, **7**, 241 (**17**, 193), pl. 57.
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Carrière. 22 D. 1875. II, **6**, 659 (**16**, 427), pl. 164.
Hoffmann. 19 Je. 1878. II, **9**, 393 (**20**, 248), pl. 112.
Jones. 23 Ap. 1881. II, **12**, 358 (**25**, 408), pl. 83.
Linglin. 14 N. 1874. II, **5**, 559 (**15**, 168), pl. 132.
Masson. 23 Je. 1879. II, **10**, 3-4 (**22**, 84), pl. 108.
Mouchine. 12 S. 1874. II, **5**, 446 (**15**, 55), pl. 105.
Mouchine. 9 D. 1874. II, **5**, 592 (**15**, 201), pl. 142.
Napier. 22 Jl. 1876. II, **7**, 347 (**17**, 299), pl. 86.
Prunier. 20 Ja. 1880. II, **11**, 19 (**23**, 120), pl. 7.
Rieter e Comp. 31 Jl. 1879. II, **10**, 511 (**22**, 211), pls. 146, 147.
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Traverso. 15 O. 1869. I, **6**, 382 (**9**, 398), pl. 129—Ex. II, **4**, 7 (**12**, 487).
marine steam-engine. **Farcot.** 1 Je. 1868. I, **5**, 182 (**8**, 252), pls. 51-53—Ex. II, **5**, 334 (**14**, 443).
pendulum. **Billotet.** 30 D. 1859. (**2**, 295.)* (*Sardinia.*)
water-wheel **Schrieder.** 23 F. 1881. II, **12**, 97 (**25**, 147), pl. 25.
GRAIN bagging machine. **Bergami.** 27 Ap. 1876. II, **7**, 215 (**17**, 167), pl. 50.
— **Palamidessi.** 30 N. 1876. II, **7**, 572 (**18**, 25), pls. 146, 147. Ad. **8**, 355 (**18**, 445), pl. 97.
binder. **McCranston.** 28 Ag. 1878. II, **9**, 529 (**20**, 384), pl. 164.
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— **Bougleux.** 13 Ap. 1869. I, **6**, 133 (**9**, 149), pl. 43.
— **Bougleux.** 6 Mr. 1874. II, **5**, 82 (**14**, 191), pl. 18—Ex. **10**, 99 (**21**, 299).
— **Casentini.** 10 Ap. 1879. II, **10**, 203 (**21**, 403), pl. 61.
— **Fili.** 19 Je. 1865. I, **2**, 173 (**6**, 157), pl. 50. Ad. **3**, 188 (**7**, 14), pl. 61—Ex. II, **2**, 153, 155 (**11**, 75, 77).
— **Fisher.** 7 Je. 1880. II, **11**, 358 (**23**, 459), pl. 101—Ex. **12**, 619 (**26**, 169).
— **Franco, Bertinetti e Girardi.** 4 D. 1875. II, **6**, 640 (**16**, 408), pl. 161.
— **Gell ed al.** 1 F. 1865. I, **2**, 32 (**6**, 16).
— **Hadley.** 12 Ap. 1873. II, **4**, 171 (**13**, 151), pl. 46.
— **Higginbottom e Hutchinson.** 26 Jl. 1879. II, **10**, 487 (**22**, 187), pl. 135.
— **Huguet.** 30 S. 1863. (**4**, 21.) Ad. (**1**, 135).*
— **Josse.** 30 Je. 1863. (**4**, 32)*—Ex. I, **1**, 229 (**5**, 165); **1**, 367 (**5**, 304). Ad. **1**, 369 (**5**, 306), pl. 67.
— **Luca.** 25 Ja. 1879. II, **10**, 19 (**21**, 219), pl. 6.
— **Martin.** 8 F. 1878. II, **9**, 64 (**19**, 419), pl. 15.
— **Maurel.** 7 Ag. 1875. II, **6**, 412 (**16**, 180), pl. 93. Ad. **9**, 308 (**20**, 163), pl. 84—Ex. **9**, 602 (**20**, 457)—Ex. **12**, 905 (**26**, 455).
— **Milbank.** 10 Je. 1880. II, **11**, 362 (**23**, 463), pl. 102—Ex. **12**, 527 (**26**, 77).
— **Nolden.** 30 Je. 1862. (**3**, 284.)*
— **Venturi.** 18 Ap. 1865. I, **2**, 126 (**6**, 110), pl. 30. Ad. **2**, 186 (**6**, 110), pl. 48.
— **Venturi.** 22 My. 1869. I, **6**, 204 (**9**, 220), pl. 70. Ad. II, **1**, 314 (**10**, 314), pl. 81.
— **Venturi.** 4 Ag. 1872. II, **3**, 346 (**12**, 246), pl. 90.
— **Telesio.** 13 My. 1875. II, **6**, 239 (**16**, 7), pl. 48.
— **Wegmann.** 16 My. 1870. II, **1**, 202 (**10**, 202), pl. 52—Ex. **2**, 154 (**11**, 76).
— **Zanelli.** 15 Je. 1880. II, **11**, 3-3 (**23**, 484), pl. 108.
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converting into flour. **Carr.** 8 O. 1870. II, **1**, 372 (**10**, 372), pl. 98—Ex. **2**, 310 (**11**, 232); **4**, 141 (**13**, 121); **7**, 477 (**17**, 429).
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— **Monti e Comp.** 14 My. 1873. II, **4**, 229 (**13**, 209), pl. 73.
— **Nolden.** 19 Ag. 1871. II, **2**, 265 (**11**, 187), pl. 58.
— **Zboril.** 20 Ag. 1874, II, **5**, 414 (**15**, 23), pl. 97.
elevator, centrifugal. **Bertolaso.** 12 Ap. 1880. II, **11**, 213 (**23**, 314), pl. 62.
— **Goodwin.** 4 S. 1875. II, **6**, 473 (**16**, 241), pl. 110.
— **Pavy.** 12 Mr. 1873. II, **4**, 118 (**13**, 98), pl. 35.
house. **de Coninck.** 30 S. 1855. (**1**, 121.)* (*Sardinia.*)
— **Coninck.** 31 Mr. 1863. (**3**, 450.)*
— **Devaux.** 31 D. 1862. (**3**, 386)*—Ex. I, **1**, 254 (**5**, 190); **2**, 216 (**6**, 200).
— **Pavy.** 30 S. 1859. (**2**, 266.)* (*Sardinia.*)
— **Pavy.** 30 Je. 1860. (**2**, 391.)* (*Sardinia.*)
huller. **Dupont fils.** 27 Mr. 1882. II, **13**, 244 (**28**, 16), pl. 67.
— **Henkel.** 2 Ag. 1865. I, **2**, 212 (**6**, 196), pl. 58.
— **Lataste.** 31 Mr. 1865. I, **2**, 95 (**6**, 79), pl. 20.
— **Lemoine et Chollet.** 31 D. 1862. (**3**, 399.)*
— **Martin.** 8 F. 1878. II, **9**, 64 (**19**, 419), pl. 15.
— **Mayer.** 9 Ag. 1869. I, **6**, 313 (**9**, 329), pl. 105.
— **Millot.** 9 Ag. 1879. II, **10**, 537 (**22**, 237), pl. 152.
— **Pierre.** 31 O. 1866. I, **3**, 241 (**7**, 67), pl. 69. Ad. **4**, 343 (**7**, 67).
— **Richardson.** 6 Ag. 1880. II, **11**, 540 (**24**, 141), pl. 149.
— **Roy.** 25 N. 1869. I, **6**, 437 (**9**, 453), pl. 143.
— **Seck e Comp.** 30 S. 1869. I, **6**, 374 (**9**, 390), pl. 127.
— and cleaner. **Buchholz.** 30 Je. 1858. (**2**, 86.)* (*Sardinia.*)
— — **Higginbottom et Hutchinson.** 24 S. 1875. II, **6**, 514 (**16**, 282), pl. 125—Ex. **6**, 576 (**16**, 344).
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— **Asvisio.** 24 D. 1874. II, **5**, 632 (**15**, 241), pl. 152. Ad. **6**, 102 (**15**, 241), pl. 21; **6**, 353 (**16**, 121), pl. 76.
— **Asvisio e Weilenmann.** 5 D. 1865. I, **2**, 326 (**6**, 310), pl. 91.
— **Avanzi.** 11 Ap. 1874. II, **5**, 155 (**14**, 264), pl. 35.
— **Bassano.** 1 Je. 1868. I, **5**, 177 (**8**, 247), pl. 47.
— **Bathias.** 15 Mr. 1877. II, **8**, 125 (**18**, 215), pl. 36.
— **Baxter.** 28 N. 1872. II, **3**, 515 (**12**, 415), pl. 124.
— **Berardi.** 12 Je. 1876. II, **7**, 284 (**17**, 236), pl. 69—Ex. **8**, 352 (**18**, 442). Ad. **8**, 353 (**18**, 443), pl. 96.
— **Bergami.** 27 Ap. 1876. II, **7**, 215 (**17**, 167), pl. 50.
— **Bini.** 8 Je. 1877. II, **8**, 328 (**18**, 418), pl. 88.
— **Bottassi, Amaducci, Cibele e de Laurentio.** 26 F. 1874. II, **5**, 63 (**14**, 172), pl. 13.
— **Brambilla.** 10 Jl. 1871. II, **2**, 212 (**11**, 134), pl. 48.
— **Breda.** 29 Jl. 1871. II, **2**, 236 (**11**, 158), pl. 52.
— **Brunetta.** 9 Mr. 1876. II, **7**, 93 (**17**, 45), pl. 23.
— **Calzone.** 11 Je. 1874. II, **5**, 267 (**14**, 376), pl. 60. Ad. **5**, 532 (**15**, 141), pl. 124—Ex. **8**, 410 (**18**, 500); **10**, 431 (**22**, 131).
— **Carbone.** 8 Ap. 1872. II, **3**, 134 (**12**, 34), pl. 41.
— **Caselli.** 5 Ap. 1876. II, **7**, 161 (**17**, 113), pls. 38, 39.
— **Catenot.** 30 S. 1861. (**3**, 131)*—Ex. I, **1**, 294 (**5**, 230).
— **Catto.** 17 Je. 1870. II, **1**, 253 (**10**, 253), pl. 64. Ad. **2**, 171 (**11**, 93), pl. 38—Ex. **2**, 219 (**11**, 141).
— **Catto.** 19 Je. 1871. II, **2**, 172 (**11**, 94), pl. 38. Ad. **3**, 141 (**12**, 41), pl. 45—Ex. **3**, 368 (**12**, 268); **4**, 297 (**13**, 279).
— **Chirone.** 3 S. 1874. II, **5**, 429 (**15**, 38), pl. 101.
— **Coda-Canati.** 10 Jl. 1868. I, **5**, 222 (**8**, 292), pl. 67.
— **Coen.** 7 My. 1868. I, **5**, 126 (**8**, 196), pl. 28. Ad. **5**, 229 (**8**, 196), pl. 68.
— **Corsiglio ed al.** 2 Je. 1868. I, **5**, 189 (**8**, 259), pl. 54.
— **Daina ed al.** 11 Jl. 1867. I, **4**, 214 (**7**, 354), pl. 69. Ad. **5**, 325 (**8**, 395), pl. 91—Ex. II, **1**, 384 (**10**, 384); **7**, 294 (**17**, 246).
— **Dorigo e Savoini.** 7 N. 1874. II, **5**, 545 (**15**, 154), pls. 128, 129.
— **Durante.** 21 Ag. 1876. II, **7**, 410 (**17**, 362), pl. 103. Ad. **8**, 61 (**18**, 151), pl. 19.
— **Enrico.** 14 Ja. 1874. II, **5**, 9 (**14**, 118), pl. 1.
— **Fautario.** 24 N. 1874. II, **5**, 578 (**15**, 187), pl. 138.
— **Gabrielle.** 7 My. 1874. II, **5**, 215 (**14**, 324), pl. 46.
— **Georgini e Veraci.** 13 S. 1871. II, **2**, 299 (**11**, 221), pl. 65.
— **Ghigliotti.** 11 F. 1869. I, **6**, 45 (**9**, 61), pl. 9.
— **Giussani, Colombo e Dall'Acqua.** 14 D. 1872. II, **3**, 545 (**12**, 445), pl. 131.
— **Gostoli.** 11 D. 1873. II, **4**, 587 (**14**, 67), pl. 163.
— **Graffigna.** 4 Mr. 1869. I, **6**, 83 (**9**, 99), pl. 33.
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— **Greco padre e figlio.** 30 S. 1873. II, **4**, 467 (**13**, 447), pl. 132.
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— **Kaiser.** 21 Mr. 1874. II, **5**, 121 (**14**, 230), pls. 26, 27. Ad. **5**, 644 (**15**, 253), pl. 155—Ex. **8**, 91 (**18**, 181). Ad. **8**, 113 (**18**, 203), pl. 29.
— **Kaiser.** 26 Ap. 1879. II, **10**, 239 (**21**, 439), pl. 68—Ex. **11**, 430 (**24**, 31); **12**, 582 (**26**, 132).
— **Kauser.** 23 Je. 1874. II, **5**, 296 (**14**, 405), pl. 71.
— **Kragnotty.** 4 Ag. 1874. II, **5**, 368 (**14**, 477), pl. 85—Ex. **6**, 500 (**16**, 268). Ad. **9**, 532 (**17**, 485), pl. 136.
— **Lanfranco.** 15 S. 1873. II, **4**, 445 (**13**, 425), pl. 117.
— **Laurenzana.** 7 D. 1872. II, **3**, 533 (**12**, 433), pl. 129.
— **Laurenzana.** 22 F. 1873. II, **4**, 89 (**13**, 69), pl. 23.
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— **Lombardi fratelli.** 25 Ja. 1873. II, **4**, 40 (**13**, 20), pl. 1.
— **Lombardo.** 14 Ap. 1869. I, **6**, 141 (**9**, 157), pl. 44. Ad. **6**, 222 (**9**, 238), pl. 72.
— **Maré.** 6 N. 1867. I, **4**, 360 (**8**, 1), pl. 115. Ad. **5**, 232 (**8**, 302), pl. 75.
— **Marzari.** 30 S. 1873. II, **4**, 473 (**13**, 453), pl. 124. Ad. **4**, 594 (**14**, 74), pl. 156; **5**, 156 (**14**, 265), pl. 35.
— **Mazzari.** 30 Ap. 1875. II, **6**, 204 (**15**, 472), pl. 38—Ex. **7**, 162 (**17**, 114).

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— **Mazzullo e Cutroneo.** 20 Ag. 1869. I, **6**, 322 (**9**, 338), pl. 109.
— **Milesi.** 11 Mr. 1872. II, **3**, 72 (**11**, 472), pl. 20—Ex. **4**, 183 (**13**, 163). Ad. **4**, 184 (**13**, 164)—Ex. **7**, 117 (**17**, 69).
— **Moretti.** 16 My. 1876. II, **7**, 227 (**17**, 179), pl. 54.
— **Munnem et Reisert.** 19 Je. 1878. II, **9**, 394 (**20**, 249), pl. 113.
— **de Natali.** 18 N. 1872. II, **3**, 502 (**12**, 402), pl. 120.
— **Neri.** 29 S. 1877. II, **8**, 561 (**19**, 151), pl. 140.
— **Padernello.** 17 Ap. 1875. II, **6**, 173 (**15**, 441), pl. 34.
— **Palamidessi.** 30 N. 1876. II, **7**, 572 (**18**, 25), pls. 146, 147. Ad. **8**, 355 (**18**, 445), pl. 97—Ex. **9**, 22 (**19**, 377).
— **Porcinai.** 21 Mr. 1874. II, **5**, 106 (**14**, 215), pl. 24. Ad. **5**, 584 (**15**, 193), pl. 141; **6**, 89 (**15**, 357), pl. 18—Ex. **8**, 145 (**18**, 235).
— **Porcinai e Biagioni.** 7 D. 1872. II, **3**, 532 (**12**, 432), pl. 129.
— **Porcinai e Biagioni.** 7 My. 1875. II, **6**, 225 (**15**, 493), pl. 48.
— **Pugno.** 14 N. 1874. II, **5**, 550 (**15**, 159), pl. 130.
— **Raggio.** 20 Mr. 1868. I, **5**, 53 (**8**, 123), pl. 16.
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— **Richelmi.** 20 Jl. 1871. II, **2**, 234 (**11**, 156), pl. 49—Ex. **3**, 455 (**12**, 355).
— **Rocca.** 14 Ap. 1869. I, **6**, 144 (**9**, 160), pl. 46.
— **Ruel.** 26 Ag. 1875. II, **6**, 462 (**16**, 230), pl. 106. Ad. **7**, 356 (**17**, 308), pl. 87.
— **Salmeri-Kragnothy.** 18 Jl. 1878. II, **9**, 462 (**20**, 317), pl. 140.
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— **Sideri ed al.** 11 Mr. 1869. I, **6**, 96 (**9**, 112), pl. 35. Ad. **6**, 211 (**9**, 227).
— **Société Industrielle Suisse.** 17 Ja. 1878. II, **9**, 4 (**19**, 359), pls. 2, 3.
— **Société Industrielle Suisse.** 17 Ja. 1878. II, **9**, 5 (**19**, 360), pl. 1. Ad. **10**, 189 (**21**, 389), pl. 58.
— **Société Industrielle Suisse.** 17 Ja. 1878. II, **9**, 6 (**19**, 361), pl. 4. Ad. **10**, 190 (**21**, 390), pl. 59.
— **Société Industrielle Suisse.** 10 Ap. 1879. II, **10**, 213 (**21**, 413), pl. 64—Ex. **11**, 392 (**23**, 493).
— **Sollima.** 22 D. 1873. II, **4**, 605 (**14**, 85), pl. 166.
— **Thiabaud.** 22 Ap. 1871. II, **2**, 102 (**11**, 24), pl. 17.
— **Thiabaud.** 15 S. 1876. II, **7**, 451 (**17**, 403), pl. 112.
— **Trevisan.** 31 Ja. 1874. II, **5**, 39 (**14**, 148), pl. 6—Ex. **6**, 169 (**15**, 437).
— **Ugazzi.** 19 N. 1873. II, **4**, 555 (**14**, 35), pl. 154.
— **Valeri.** 22 F. 1873. II, **4**, 80 (**13**, 60), pl. 24.
— **Viglino.** 7 D. 1872. II, **3**, 531 (**12**, 431), pl. 129.
— **Von Ernst.** 15 Mr. 1877. II, **8**, 116 (**18**, 206), pl. 30.
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— support. **Berardi.** 26 O. 1876. II, **7**, 519 (**14**, 472), pl. 129—Ex. **8**, 555 (**19**, 145).
sampler. **Goodwin.** 15 F. 1879. II, **10**, 75 (**21**, 275), pl. 21.
scales, etc. **Wood.** 2 Ag. 1867. I, **4**, 254 (**7**, 394), pl. 78.
separator. **Bougleux.** 30 Je. 1863. (**4**, 28)*—Ex. I, **1**, 310 (**5**, 246). Ad. I, **1**, 314; (**5**, 250), pl. 37.
— **Conazzi.** 18 Je. 1875. II, **6**, 307 (**16**, 75), pl. 69.
— **Hignette.** 28 Mr. 1877. II, **8**, 148 (**18**, 238), pl. 43.
— **Neuerburg.** 19 Je. 1876. II, **7**, 297 (**17**, 249), pl. 70.
sifter. **Boltri e Masserano.** 18 Mr. 1879. II, **10**, 122 (**21**, 322), pl. 36—Ex. **11**, 222 (**23**, 323).
washer. **Véve.** 30 Ap. 1878. II, **9**, 265 (**20**, 120), pl. 67. Ad. **9**, 411 (**20**, 266), pl. 113.

GRANADE. **Orlando.** 30 Je. 1861. (**3**, 43.)* Ad. (**1**, 96).

GRANITE-POLISHING MACHINE. **Geninazzi.** 13 Mr. 1868. I, **5**, 32 (**8**, 102), pl. 9.

GRAPE curing compound. **Alciati.** 30 Je. 1857. (**1**, 442.)* (*Sardinia.*)
— **Testa.** 30 S. 1855. (**1**, 54.)* (*Sardinia.*)
crusher. **Mantero.** 19 Jl. 1879. II, **10**, 474 (**22**, 174), pl. 131.
— stemmer, stoner, and separator. **Calcagno.** 15 N. 1866. I, **3**, 252 (**7**, 78), pl. 70.

GRAPE—continued.
mold preventing compound. **Alberto.** 25 Je. 1874. II, **5**, 304 (**14**, 413).
— **Berardi.** 31 Mr. 1868. I, **5**, 76 (**8**, 146). Ad. **6**, 76 (**9**, 92).
— **Gandolfi.** 3 Mr. 1869. I, **6**, 81 (**9**, 97).
— **d'Aolenghi.** 13 Ap. 1869. I, **6**, 128 (**9**, 144).
sulphurizer. **Martini.** 20 Mr. 1869. I, **6**, 100 (**9**, 116), pl. 44.
— **Ouin.** 30 Je. 1857. (**1**, 392.) Ad. (, 34.)* (*Sardinia.*)
— **Venturi.** 8 My. 1873. II, **4**, 211 (**13**, 191), pl. 57.
— bellows. **Garelli.** 3 Mr. 1869. I, **6**, 75 (**9**, 91), pl. 21.
— — **Soi.** 8 My. 1869. I, **6**, 179 (**9**, 195), pl. 52.
treader. **Panizzoni.** 19 D. 1876. II, **7**, 593 (**18**, 46), pl. 152.
vine cultivator. **Rossi.** 31 Mr. 1862. (**3**, 222)*—Ex. I, **1**, 108 (**5**, 44).
vine fiber preparing for spinning and paper-pulp. **Vita.** 26 D. 1867. I, **4**, 409 (**8**, 50).
vine protector. **Duchange.** 14 My. 1874. II, **5**, 231 (**14**, 340), pl. 52.
GRAPPLE. **Toselli.** 9 F. 1874. II, **5**, 51 (**14**, 160), pl. 9. Ad. **6**, 159 (**15**, 427), pl. 33—Ex. **8**, 52 (**18**, 142).
GRATE. **Carré.** 29 My. 1875. II, **6**, 270 (**16**, 38), pl. 59. Ad. **6**, 518 (**16**, 286).
Goujet. 14 Je. 1877. II, **8**, 334 (**18**, 424), pl. 90.
Henzel e Lieblich. 27 N. 1877. II, **8**, 670 (**19**, 260), pl. 177—Ex. **9**, 822 (**21**, 177).
Knoblauch. 22 My. 1874. II, **5**, 242 (**14**, 351), pl. 54—Ex. **5**, 493 (**15**, 102).
Miguet, Fond e Comp. 16 O. 1871. II, **2**, 348 (**11**, 270), pl. 74.
Newbold. 23 Ag. 1878. II, **9**, 524 (**20**, 379), pl. 163.
Nikiphoroff. 31 Mr. 1881. II, **12**, 261 (**25**, 311), pl. 63.
Perret. 15 D. 1879. II, **10**, 831 (**23**, 31), pl. 231.
Strupler. 17 F. 1882. II, **13**, 108 (**27**, 380), pl. 32.
Venini. 26 Je. 1871. II, **2**, 191 (**11**, 113), pl. 42.
bar. **Baumberger.** 10 O. 1874. II, **5**, 478 (**15**, 87), pl. 113.
— **Galley.** 29 Mr. 1882. II, **13**, 252 (**28**, 24), pl. 69.
— **Tritapaglia.** 29 Jl. 1874. II, **5**, 353 (**14**, 462), pl. 83.
— **Wackernie.** 18 O. 1878. II, **9**, 630 (**20**, 485), pl. 195.
burner. **Desgouttes.** 28 Mr. 1879. II, **10**, 161 (**21**, 361), pl. 52—Ad. **11**, 659 (**24**, 260), pl. 189.
for sawdust, etc. **Grancini.** 31 Mr. 1882. II, **13**, 275 (**28**, 47), pl. 76.
smoke-consuming. **Nitsche et Grellneth.** 15 N. 1880. II, **11**, 807 (**24**, 408), pl. 234—Ad. **11**, 844 (**24**, 445), pl. 247.
GRAVITY-MOTOR. **Cavaliere.** 30 S. 1874. II, **5**, 465 (**15**, 74), pl. 108.
Lelièvre. 11 Ja. 1875. II, **6**, 12 (**15**, 280), pl. 3.
Pulverenti e Papa. 5 Jl. 1875. II, **6**, 345 (**16**, 113), pl. 76.
Redon e Comp. 30 O. 1874. II, **5**, 523 (**15**, 132), pl. 123.
Thouin. 4 Ag. 1874. II, **5**, 371 (**14**, 480), pl. 86.
GRINDING. **Nagel et Kaemp.** 31 D. 1877. II, **8**, 759 (**19**, 349).
and polishing flat-irons. **Asbury.** 27 F. 1877. II, **8**, 78 (**18**, 168), pl. 21.
and polishing stone and metal. **Gay.** 27 My. 1874. II, **5**, 250 (**14**, 359), pl. 54.
edge-tools, machine for. **Kennedy.** 19 D. 1868. I, **5**, 409 (**8**, 480), pl. 117.
stone and metals. **Tilghman.** 26 Je. 1871. II, **2**, 192 (**11**, 114), pl. 45—Ex. **4**, 258 (**13**, 238); **8**, 155 (**18**, 245).
stone, glass and metal. **Tilghman.** 21 D. 1872. II, **3**, 563 (**12**, 463)—Ex. **7**, 12 (**16**, 464).
GUIDE. *See also* Spinning, Winding.
book. **Muret.** 20 Ap. 1878. II, **9**, 212 (**20**, 67), pls. 71, 72.
GUITAR, double. **Rinaldi.** 7 Ap. 1866. I, **3**, 94 (**6**, 420), pl. 29.
GUM. **Bo.** 20 Mr. 1875. II, **6**, 112 (**15**, 380).
copal solution in alcohol. **Alman.** 6 Je. 1872. II, **3**, 235 (**12**, 135).
lac polishing machine. **Pangrazzi e fratelli.** 20 Mr. 1880. II, **11**, 156 (**23**, 257), pl. 51.
manufacture. **Mitscherlich.** 29 Ap. 1882. II, **13**, 380 (**28**, 152).
GUN, air. **Weber.** 20 O. 1877. II, **8**, 607 (**19**, 197), pl. 147.
boat. **Farcy.** 7 S. 1869. I, **6**, 336 (**9**, 352), pl. 113—Ex. II, **6**, 541 (**16**, 309); **12**, 895 (**26**, 445).
GUNPOWDER. **Celani.** 3 F. 1869. I, **6**, 41 (**9**, 57).
Fontana ed al. 29 S. 1868. I, **5**, 339 (**8**, 409).
Schultze. 30 Je. 1863. (**4**, 14.)*
box machine. **Pugno.** 22 My. 1866. I, **3**, 125 (**6**, 451), pl. 33.
compacting and adhesive rendering. **Doremus e Budd.** 30 Je. 1862. (**3**, 278)*—Ex. I, **1**, 81 (**5**, 17). Ad. **1**, 341 (**5**, 278).
compressed. **Nobel.** 29 Mr. 1871. II, **12**, 244 (**25**, 294), pl. 55.
manufacture. **Baron.** 30 S. 1863. (**4**, 72.)*
— **Biebuyck.** 30 S. 1862. (**3**, 328)*—Ex. I, **1**, 290 (**5**, 226).
— **Brown.** 30 Je. 1860. (**2**, 383.)* (*Sardinia.*)
— **Designolle ed al.** 13 Mr. 1868. I, **5**, 23 (**8**, 93).
— **Kelew e Short.** 30 S. 1863. (**4**, 117)*—Ex. I, **1**, 102 (**5**, 38).
— **Nobel.** 31 D. 1863. (**4**, 132.) Ad. (**1**, 147)*—Ex. I, **1**, 226 (**5**, 162). Ad. **1**, 388 (**5**, 325)
— **Schäffer ed al.** 14 My. 1864. I, **1**, 233 (**5**, 169).
GUTTER. **Pieper.** 28 Ap. 1882. II, **13**, 371 (**28**, 143), pl. 96.
GYMNASTIC apparatus. **Bacon.** 28 Mr. 1873. II, **4**, 140 (**13**, 120), pl. 41.
— **Bastien.** 6 Ag. 1878. II, **9**, 507 (**20**, 362), pls. 156, 157.
— **Frapolli.** 9 F. 1881. II, **12**, 78 (**25**, 128), pl. 20.
— **Klemm.** 16 Ag. 1877. II, **8**, 478 (**19**, 68), pl. 123.
HAIR brushing apparatus. **Bryant ed al.** 23 Ap. 1866. I, **3**, 109 (**6**, 435), pl. 33.
— barber's. **Camp.** 3 N. 1864. I, **1**, 491 (**5**, 428), pl. 78.
press. **Lahaussois.** 18 S. 1877. II, **8**, 537 (**19**, 127), pl. 133.
restorative. **Bassini.** 31 Mr. 1858. (**2**, 58.)* (*Sardinia.*)
— veterinary. **Kwizda.** 6 Ag. 1878. II, **9**, 496 (**20**, 351)—Ex. **12**, 611 (**26**, 161).
vegetable. **Turina fratelli.** 31 Mr. 1863. (**3**, 412)*—Ex. I, **1**, 265 (**5**, 201).
HAMMER. *See also* Stamp, Steam.
Barberis. 31 Mr. 1859. (**2**, 197.)* (*Sardinia.*)
pneumatic. **Tarizzo e Comp.** 13 Jl. 1880. II, **11**, 482 (**24**, 83), pl. 139.
power. **Sauer.** 7 Jl. 1866. I, **3**, 163 (**6**, 489), pl. 51—Ex. **6**, 246 (**9**, 262).
stamp. **Sodero.** 18 Je. 1875. II, **6**, 321 (**16**, 89), pl. 71—Ex. **7**, 299 (**17**, 251).
HAMMOCK. **Aducci.** 11 My. 1878. II, **9**, 288 (**20**, 143), pl. 78.
suspending. **Gwire.** 23 My. 1865. I, **2**, 145 (**6**, 129), pl. 32.
tent. **Leycester.** 16 O. 1878. II, **9**, 608 (**20**, 463), pl. 192.
HAND BAG. **Chicca.** 30 D. 1876. II, **7**, 617 (**18**, 70), pl. 156.
HAND ENGINE. **Bozérian.** 10 Ag. 1877. II, **8**, 462 (**19**, 52), pl. 119. Ad. **9**, 289 (**20**, 144), pl. 76.
Bozérian. 18 Ap. 1877. II, **8**, 204 (**18**, 294), pl. 57.
Cavalerie. 4 S. 1880. II, **11**, 600 (**24**, 201), pl. 171.
Dagnino. 14 Je. 1877. II, **8**, 332 (**18**, 122), pl. 90.
Pappatino. 16 Ag. 1877. II, **8**, 479 (**19**, 69), pl. 123.
Pastore. 31 Jl. 1869. I, **6**, 299 (**9**, 315), pl. 98.
Villa. 30 S. 1869. I, **6**, 363 (**9**, 379).
Villa. 16 Ap. 1881. II, **12**, 330 (**25**, 380), pl. 75.
HANDCUFF. **Baudracco.** 25 Mr. 1879. II, **10**, 160 (**21**, 360), pl. 53.
HANDLE. *See* Can, Knife, Tool, Umbrella.
HARBOR improving, Genoa. **Merello.** 20 Je. 1881. II, **12**, 530 (**26**, 80), pl. 132.
HARMONICA, portable. **Tubi.** 30 S. 1863. (**4**, 65.)*
HARNESS. **Desarran.** 15 N. 1877. II, **8**, 661 (**19**, 251), pl. 173.
Farlatti. 22 My. 1871. II, **2**, 146 (**11**, 68), pl. 29.
Pasolini. 15 Mr. 1878. II, **9**, 134 (**19**, 489).
buckle. **Gavitt e Moyer.** 6 Ag. 1880. II, **11**, 538 (**24**, 139), pl. 149.
snap. **Wendes.** 18 Mr. 1879. II, **10**, 113 (**21**, 313), pl. 34.
HARP keyboard. **Antoldi.** 7 Jl. 1876. II, **7**, 320 (**17**, 272), pl. 76—Ex. **8**, 19 (**18**, 109); **9**, 10 (**19**, 365); **10**, 13 (**21**, 213).
piano. **Antoldi.** 7 Je. 1880. II, **11**, 351 (**23**, 452), pl. 99. Ad. **12**, 478 (**26**, 28).

HARROW. **Arbicò.** 26 Mr. 1880. II, **11**, 169 (**23**, 270), pl. 53—Ex. **13**, 259 (**28**, 31).
Brassier. 23 Mr. 1870. II, **1**, 111 (**10**, 111), pl. 23.
circular. **Battegazzone.** 23 S. 1865. I, **2**, 252 (**6**, 236), pl. 71.
HARVESTER. **Neale.** 29 O. 1877. II, **8**, 620 (**19**, 210), pls. 160–162.
Neale. 18 Jl. 1878. II, **9**, 461 (**20**, 316), pls. 138, 139.
attachment. **Abadie.** 12 Ag. 1875. II, **6**, 420 (**16**, 188), pl. 94.
hemp. **Brassier.** 23 Mr. 1870. II, **1**, 111 (**10**, 111), pl. 23.
HAT. **Balada.** 15 Jl. 1881. II, **12**, 600 (**26**. 150).
Bruna. 30 S. 1857. (**1**, 479.)* (*Sardinia.*)
Case. 22 Jl. 1876. II, **7**, 361 (**17**, 313), pl. 90.
Durdilly. 30 Je. 1860. (**2**, 361.)* (*Sardinia.*)
de Ferrari. 30 Ap. 1870. II, **1**, 179 (**10**, 179), pl. 44. Ad. **4**, 292 (**13**, 272), pl. 79.
Torty. 31 D. 1856. (**1**, 328.)* (*Sardinia.*)
Wheble. 24 Ap. 1870. II, **1**, 165 (**10**, 165), pl. 40.
Wheble. 9 Mr. 1872. II, **3**, 66 (**11**, 466), pl. 18.
band, substitute. **Langenhagen.** 12 O. 1866. I, **3**, 228 (**7**, 54), pl. 66.
batting. **Marin.** 15 Jl. 1881. II, **12**, 618 (**26**, 168), pl. 15. Ad. **12**, 1184 (**27**, 234), pl. 332.
bending-machine. **Cahon fratelli.** 20 D. 1869. I, **6**, 466 (**9**, 482), pl. 149.
block. **Bruguier.** 12 Ap. 1876. II, **7**, 183 (**17**, 135), pl. 42.
— **Manginot.** 31 Mr. 1882. II, **13**, 280 (**28**, 52), pl. 70.
blocking. **Piron.** 23 Ap. 1878. II, **9**, 225 (**20**, 80), pl. 56. Ad. **10**, 272 (**21**, 472), pl. 77.
— machine. **Sheldon.** 2 Ag. 1867. I, **4**, 251 (**7**, 391), pl. 91.
— — **Sheldon.** 13 D. 1867. I, **4**, 399 (**8**, 40), pl. 120.
body, cork. **Colomba.** 5 Mr. 1856. (**1**, 149.)* (*Sardinia.*)
body, hardening. **Della Rocca.** 23 Ag. 1865. I, **2**, 226 (**6**, 210).
body, waterproof. **Gilardini.** 28 Ag. 1871. II, **2**, 285 (**11**, 207), pl. 63.
brim-shaping machine. **Ferraro.** 30 Je. 1871. II, **2**, 166 (**11**, 88), pl. 36.
cork. **d'Ippolito.** 15 My. 1867. I, **4**, 156 (**7**, 296).
fabric. **Fanna.** 23 N. 1869. I, **6**, 434 (**9**, 450).
felt. **Beltrami.** 30 S. 1862. (**3**, 329.)*
felting machine. **Borello.** 26 D. 1867. I, **4**, 411 (**8**, 52), pl. 127.
ironing heater. **Dellarocca.** 31 My. 1873. II, **4**, 254 (**13**, 234), pl. 68.
ironing machine. **Leduc.** 28 Ap. 1880. II, **11**, 267 (**23**, 368), pls. 79, 80.
lining. **Bottacchi fratelli.** 20 S. 1880. II, **11**, 633 (**24**, 234), pl. 178.
— **Conegliano, Sangiorgi e Lowenberg.** 21 Ap. 1875. II, **6**, 193 (**15**, 461).
— **Eula e figlio.** 4 Mr. 1870. II, **1**, 82 (**10**, 82).
manufacture. **Coanet.** 30 S. 1863. (**4**, 102.)*
— **Coppo.** 30 S. 1861. (**3**, 147.)*
— **Liatti e Comp.** 31 Mr. 1882. II, **13**, 274 (**28**, 46).
— felt. **Galibert fils.** 16 N. 1878. II, **9**, 707 (**21**, 62).
— — **Neuve.** 29 N. 1881. II, **12**, 1050 (**27**, 100), pl. 284.
military. **Sudrie.** 24 Ap. 1871. II, **2**, 110 (**11**, 32), pl. 26.
mold, straw. **Morganti.** 5 Mr. 1877. II, **8**, 94 (**18**, 184), pl. 25.
ornamenting, straw. **Andrieux.** 27 Mr. 1881. II, **12**, 370 (**25**, 420).
press. **Désireau.** 30 D. 1876. II, **7**, 631 (**18**, 84), pl. 159.
— **Désireau.** 20 F. 1877. II, **8**, 68 (**18**, 158), pl. 17. Ad. **8**, 299 (**18**, 389), pl. 81.
— hydraulic. **Porcinai.** 23 Mr. 1870. II, **1**, 101 (**10**, 101), pl. 22.
sewing-machine, straw. **Vom Baur.** 12 Jl. 1873. II, **4**, 341 (**13**, 321), pl. 91.
shaping. **Virano.** 22 My. 1874. II, **5**, 238 (**14**, 347), pl. 54.
silk. **Demata.** 30 Je. 1863. (**4**, 48.) Ad. (**1**, 142).*
spring. **Borré.** 3 N. 1864. I, **1**, 488 (**5**, 425), pl. 78.
visor. **Enrico figlio.** 30 Jl. 1870. II, **1**, 317 (**10**, 317).
HAVERSACK. **Hovelacque fratelli et Perrin.** 31 D. 1863. (**4**, 139)*—Ex. I, **1**, 159 (**5**, 95). Ad. **1**, 324 (**5**, 260), pl. 55.
HAWSE hole. **Camerano.** 8 Ag. 1874. II, **5**, 382 (**14**, 491), pl. 88.
HAY press. **Conteau.** 14 O. 1879. II, **10**, 660 (**22**, 360), pl. 181.
HEAD-DRESS. **Hirault.** 30 S. 1856. (**1**, 268.)* (*Sardinia.*)
HEAT collector. **Mignon et Rouart.** 12 D. 1879. II, **10**, 818 (**23**, 18), pl. 230.
from earth and springs, application of. **Ronieri.** 3 Ap. 1865. I, **2**, 58 (**6**, 42).
non-conductor. **Ruquois.** 31 Mr. 1863. (**3**, 447)*—Ex. I, **1**, 292 (**5**, 228).
— **Strelitz.** 18 Jl. 1878. II, **9**, 450 (**20**, 305).
regulating apparatus. **Favero.** 6 N. 1867. I, **4**, 367 (**8**, 8), pl. 113.
storing apparatus. **Nieske.** 7 Ap. 1881. II, **12**, 297 (**25**, 347), pl. 71.
utilizing. **Mottura.** 31 Mr. 1882. II, **13**, 255 (**28**, 27).
HEATER. *See also* Bath, Carriage, Feedwater, Flatiron, Hat ironing, Liquid, Silk opening, Silk spinning water, Steam-boiler.
Archereau. 21 Je. 1865. I, **2**, 183 (**6**, 167), pls. 54, 55.
Bureau. 31 D. 1859. (**2**, 313.)* (*Sardinia.*)
Colomb. 31 Mr. 1868. I, **5**, 67 (**8**, 137), pl. 16.
Cornaglia. 13 Jl. 1880. II, **11**, 462 (**24**, 63), pl. 136.
Litta. 30 Je. 1859. (**2**, 256.)* (*Sardinia.*)
Litta e Comp. 31 D. 1863. (**3**, 418.)*
Mille. 26 Jl. 1864. I, **1**, 386 (**5**, 323), pl. 39.
Mundo, Briollet, Dumontet et Cie. 31 Mr. 1859. (**2**, 231.)* (*Sardinia.*)
Pimont. 24 Jl. 1853. 54. (*Sardinia.*)
Reymond. 21 Mr. 1870. II, **1**, 93 (**10**, 93), pls. 20, 21.
bath, portable. **Bonino.** 30 S. 1860. (**2**, 436.)* (*Sardinia.*)
car. **Massoneri.** 12 Je. 1876. II, **7**, 275 (**17**, 227), pl. 66.
— **Morel.** 7 D. 1880. II, **11**, 859 (**24**, 460), pl. 250.
— **Taddei.** 31 Ja. 1874. II, **5**, 34 (**14**, 143), pl. 4.
gas. **Müller,** 20 Ap. 1880. II, **11**. 227 (**23**. 328), pls. 65, 66.
— **Sandeman e Willis.** 31 Mr. 1880. II, **11**, 206 (**23**, 307), pl. 6.
hot air. **Garneri.** 21 S. 1876. II, **7**, 460 (**17**, 412).
— **Massoneri.** 12 Je. 1876. II, **7**, 275 (**17**, 277), pl. 66.
hot water. **Lemeunier e Gerard.** 11 D. 1875. II, **6**, 651 (**16**, 419), pl. 163—Ex. **13**, 196 (**27**, 468).
hydrocarbon. **Rossi.** 15 F. 1880. II, **11**, 76 (**23**, 177), pl. 28).
steam. **Zolla e Campagno.** 14 Je. 1877. II, **8**, 339 (**18**, 429), pl. 90—Ex. **11**, 437 (**24**, 38).
— car. **Haag.** 21 Ag. 1881. II, **12**, 348 (**25**, 398), pls. 83, 84.
tube. **Röber.** 20 N. 1880. II, **11**, 822 (**24**, 423), pl. 238. Ad. **12**, 646 (**26**, 196), pls. 161–164.
HEATING. **Chambon-Lacroisade.** 31 D. 1862. (**3**, 406.)*
Raymond e Comp. 30 Je. 1862. (**3**, 288.)*
Silber. 20 Mr. 1872. II, **3**, 104 (**12**, 4), pl. 29—Ex. **6**, 120 (**15**, 388).
by gas. **Charpentier.** 31 Ja. 1873. II, **4**, 41 (**13**, 21), pl. 11. Ad. **4**, 504 (**13**, 484), pl. 143—Ex. **5**, 141 (**14**, 250).
— **Crouzet.** 7 F. 1851. 14.* (*Sardinia.*)
— **Pütz.** 7 F. 1876. II, **7**, 59 (**17**, 11), pl. 16.
— and air. **Robertson.** 8 My. 1873. II, **4**, 214 (**13**, 194), pl. 57—Ex. **5**, 209 (**14**, 318).
by hydrogen contained in water. **Briollet.** 11 Mr. 1865. I, **2**, 73 (**6**, 57), pl. 14.
by oil. **Silber e White.** 20 Ap. 1871. II, **2**, 109 (**11**, 31), pl. 24—Ex. **3**, 155 (**12**, 55); **6**, 160 (**15**, 428).
cars. **Ancelin.** 31 O. 1879. II, **10**, 709 (**22**, 409).
— **Bellini e Ferrari.** 29 N. 1879. II, **10**, 797 (**22**, 497), pl. 221.
— **Grandjean.** 4 Mr. 1870. II, **1**, 79 (**10**, 79), pls. 15, 16.
— **Grandjean.** 14 Jl. 1870. II, **1**, 296 (**10**, 296), pl. 73.
— **Société Industrielle Suisse.** 10 N. 1876. II, **7**, 546 (**17**, 499), pl. 141.
— **Weibel.** 10 O. 1872. II, **3**, 464 (**12**, 364), pl. 114.
— and buildings. **Bianchi.** 14 D. 1881. II, **12**, 1095 (**27**, 145).
compressed gas. **Schreiber.** 29 Mr. 1881. II, **12**, 245 (**25**, 295), pl. 59.
furnace. **Bianchi.** 20 Mr. 1854. 68.* (*Sardinia.*)
liquids. **Nolden.** 19 Ag. 1871. II, **2**, 265 (**11**, 187), pl. 58.
— **Tellier.** 23 N. 1881. II, **12**, 1025 (**27**, 75), pl. 278.
spinning. **Rignon.** 31 Mr. 1857. (**1**, 372.)* (*Sardinia.*)
water-gas. **Girard.** 31 D. 1863. (**4**, 173.)*

HEDGE, railway. **Allain.** 7 My. 1864. I, **1**, 203 (**5**, 139), pl. 18.
trimmer. **Boyer.** 31 Ja. 1880. II, **11**, 57 (**23**, 158), pl. 17.
HEEL. **Arrighini.** 24 S. 1875. II, **6**, 515 (**16**, 283), pl. 120.
Richardson. 16 N. 1878. II, **9**, 705 (**21**, 60), pl. 214—Ex. **12**, 1109 (**27**, 159).
Richardson. 15 F. 1880. II, **11**, 66 (**23**, 167), pl. 18.
and sole. **Anghileri.** 3 Ag. 1881. II, **12**, 725 (**26**, 275), pl. 187.
cutting machine. **Perrissin e Comp.** 30 Je. 1873. II, **4**, 316 (**13**, 296), pl. 83.
fastening. **Leycuras.** 30 N. 1880. II, **11**, 851 (**24**, 452), pl. 249—Ex. **12**, 1211 (**27**, 261).
felt. **Galbiati.** 27 D. 1881. II, **12**, 1176 (**27**, 226).
forming machine. **Larrabée et Cie.** 11 Je. 1879. II, **10**, 359 (**22**, 59), pls. 105, 106.
hollow horn. **Lemarchand.** 14 Ja. 1882. II, **13**, 21 (**27**, 295), pl. 5.
making machine. **Balconi.** 25 Ja. 1869. I, **6**, 27 (**9**, 43), pl. 8.
manufacture. **Ellershausen.** 19 N. 1867. I, **4**, 377 (**8**, 18), pl. 113.
— **Jones.** 14 Ja. 1876. II, **7**, 17 (**16**, 469), pl. 2.
movable. **Bianchi.** 16 D. 1878. II, **9**, 772 (**21**, 127), pl. 236.
protector. **Dourdet.** 19 Ap. 1882. II, **13**, 339 (**28**, 111), pl. 88.
steel. **Puricelli.** 28 Mr. 1870. II, **1**, 134 (**10**, 134), pl. 33.
HELIOTYPE. **Ratti.** 16 N. 1878. II, **9**, 693 (**21**, 48)—Ex. **11**, 910 (**25**, 11).
Rossi. 31 D. 1869. I, **6**, 401 (**9**, 417).
Woodbury. 31 Ag. 1880. II, **11**, 599 (**24**, 200).
printing. **Avet.** 2 Ag. 1865. I, **2**, 215 (**6**, 199).
— in colors. **Meneghini.** 31 O. 1881. II, **12**, 978 (**27**, 28).
HEMP brake. **Arfilli.** 21 D. 1880. II, **11**, 867 (**24**, 468), pl. 252.
— **Bosisio e Comp.** 19 S. 1878. II, **9**, 581 (**20**, 436), pl. 181.
— **Cardon fils et Cie.** 23 Ja. 1875. II, **6**, 28 (**15**, 296), pl. 6.
— **Compagnie Française Chanvrière e Linière.** 7 Jl. 1869. I, **6**, 259 (**9**, 275), pls. 83–88.
— **Devoto.** 22 Je. 1864. I, **1**, 317 (**5**, 253), 32.
— **Devoto.** 7 F. 1865. I, **1**, 43 (**6**, 27), pl. 10.
— **Hodgkin e Brasier.** 13 S. 1870. II, **1**, 342 (**10**, 342), pl. 88.
— **Leveau.** 11 Mr. 1865. I, **2**, 72 (**6**, 56), pl. 15.
— **Manfredini.** 12 N. 1872. II, **3**, 499 (**12**, 399), pl. 121.
— **Manservisi.** 23 Mr. 1869. I, **6**, 109 (**9**, 125), pl. 28.
— **Prosdocimi.** 10 O. 1877. II, **8**, 575 (**19**, 165), pl. 143.
— **Seri.** 7 Ag. 1875. II, **6**, 403 (**16**, 171), pl. 91.
— **Strangman.** 31 Mr. 1868. I, **5**, 71 (**8**, 141), pl. 17.
— **Wamain.** 31 Ja. 1873. II, **4**, 44 (**13**, 24), pl. 10. Ad. **4**, 486 (**13**, 466), pl. 136.
— **Zavaglia.** 29 S. 1868. I, **5**, 334 (**8**. 404), pl. 99.
braking and thrashing. **Connor.** 30 S. 1867. I, **4**, 322 (**7**, 462), pl. 101—Ex. **4**, 342 (7, 483).
drawing and twisting machine. **Good.** 6 N. 1876. II, **7**, 525 (**17**, 478), pl. 133.
drawing machine. **Good.** 17 S. 1875. II, **6**, 479 (**16**, 247), pls. 113, 114—Ex. **9**, 564 (**20**, 419).
softening. **Ferrero.** 30 Je. 1870. II, **1**, 280 (**10**, 280).
spinning and carding machine. **Botter.** 10 O. 1867. I, **4**, 328 (**7**, 468), pl. 114.
steeping machine. **Muchin.** 13 Ag. 1880. II, **11**, 550 (**24**, 151), pl. 153.
stripping machine. **Cicero.** 27 Ap. 1876. II, **7**, 212 (**17**, 164), pl. 48.
treating. **Brault.** 11 Jl. 1867. I, **4**, 223 (**7**, 363).
— **Ferrero.** 28 Ap. 1874. II, **5**, 195 (**14**, 304).
— **Sachs.** 30 Jl. 1880. II, **11**, 478 (**24**, 79)—Ex. **12**, 699 (**26**, 249).
— by hot water. **Deperais.** 28 O. 1868. I, **5**, 364 (**8**, 435).
HIDE cleaning machine. **Janson.** 20 N. 1881. II, **12**, 1039 (**27**, 89), pl. 285.
depilating. **Ferrero.** 20 Mr. 1880. II, **11**, 153 (**23**, 254).
— **Gase e Mader.** 31 Mr. 1880. II, **11**, 203 (**23**, 304).
— **de Montoison.** 22 Mr. 1876. II, **7**, 128 (**17**, 80). Ad. **7**, 502 (**17**, 455).

HIDE depilating—continued.
— **Moret.** 26 N. 1881. II, **12**, 1033 (**27**, 82).
— **Sauvadet.** 19 My. 1875. II, **6**, 260 (**16**, 28).
— softening and dressing. **Bazetta.** 21 Ja. 1882. II, **13**, 41 (**27**, 313).
dyeing black. **Bernard.** 20 Ja. 1880. II, **11**, 27 (**23**, 128).
planing. **Société Anonyme des Brevets Réunis.** 31 Mr. 1881. II, **12**, 272 (**35**, 322), pl. 64.
preparing. **Knapp.** 25 My. 1878. II, **9**, 327 (**20**, 182), pl. 92.
— machine. **Jullien.** 30 S. 1861. (**3**, 93.)*
scouring. **Blaquière.** 9 Mr. 1876. II, **7**, 108 (**17**, 60), pl. 24.
treating. **de Sainte-Marie.** 28 N. 1872. II, **3**, 514 (**12**, 412).
washing machine. **Mayol.** 23 Mr. 1870. II, **1**, 106 (**10**, 106), pl. 22.
HINGE. *See* Carriage.
HITCHING goats and sheep. **Vivaldi.** 30 S. 1858. (**2**, 121.)* (*Sardinia.*)
HOISTING apparatus. **Calegari.** 27 S. 1872. II, **3**, 440 (**12**, 340), pl. 107.
— **Depaoli.** 12 Jl. 1873. II, **4**, 342 (**13**, 322), pl. 90.
— **Giglio.** 26 Mr. 1867. I, **4**, 90 (**7**, 230), pl. 27.
— **Giordano.** 18 Ag. 1864. I, **1**, 416 (**5**, 353), pl. 45.
— **Harfield.** 10 N. 1873. II, **4**, 542 (**14**, 22), pl. 150.
— **Murnigotti.** 5 D. 1867. I, **4**, 393 (**8**, 34), pl. 120.
— **Quignon.** 15 My. 1864. I, **1**, 260 (**5**, 196), pl. 30.
— builders. **Genolini.** 17 Jl. 1868. I, **5**, 230 (**8**, 300), pl. 70.
— consecrated vessel. **Rua.** 6 Mr. 1874. II, **5**, 86 (**14**, 195), pl. 17—Ex. **6**, 59 (**15**, 327). Ad. **6**, 362 (**16**, 130), pl. 79.
granular substances. **Lawton e Gordon.** 14 O. 1873. II, **4**, 499 (**13**, 479), pl. 141.
tackle. **Eades.** 26 Ag. 1866. I, **3**, 194 (**7**, 20), pl. 61.
HOLDER. *See* Bottle, Catheter, Cigar, Coin, Lampwick, Oil, Pen, Silk cocoon, Tobacco pipe, Tool.
HOLY SACRAMENT ELEVATING. **Rua.** 6 Mr. 1874. II, **5**, 86 (**14**, 195), pl. 17—Ex. **6**, 59 (**15**, 327). Ad. **6**, 362 (**16**, 130), pl. 79.
HONEY SIRUP. **Giacosa.** 30 Je. 1856. (**1**, 153.)* (*Sardinia*).
HOOD. **Halford.** 20 Ag. 1877. II, **8**, 489 (**19**, 79), pl. 125.
HOOK. *See also* Curtain-rod.
machine. **Camin e figlio.** 31 D. 1857. (**2**, 11.)* (*Sardinia.*)
HOOP-SKIRT. **Costamagna.** 13 D. 1864. I, **1**, 520 (**5**, 457).
spring manufacture. **Fornara.** 21 Mr. 1865. I, **2**, 83 (**6**, 67), pl. 18. Ad. covering with paper or cloth, **2**, 247 (**6**, 231), pl. 72.
HORN button machine. **Robbiati.** 15 Ap. 1882. II, **13**, 325 (**28**, 97), pl. 85.
button manufacture. **Lambermont.** 26 Jl. 1879. II, **10**, 501 (**22**, 201), pl. 144.
— **Robbiati.** 10 N. 1879. II, **10**, 729 (**22**, 429), pl. 201.
button stamping. **Robbiati.** 31 D. 1879. II, **10**, 891 (**25**, 91), pl. 249.
cutting machine. **Cerutti e Grasso.** 14 N. 1881. II, **12**, 1012 (**27**, 62), pl. 273.
painting and dyeing. **Batonnier.** 31 Mr. 1881. II, **12**, 269 (**25**, 319).
press. **Robert et fils.** 28 F. 1878. II, **9**, 109 (**19**, 464), pl. 29.
refuse consolidating. **Zincke.** 17 Mr. 1881. II, **12**, 203 (**25**, 253)—Ex. **13**, 267 (**28**, 39).
HORSE bathing. **Angelini.** 18 Ap. 1867. I, **4**, 113 (**7**, 253). Ad. **4**, 264 (**7**, 404), pl. 77.
castrating apparatus. **Ariano.** 31 Mr. 1856. (**1**, 156.)* (*Sardinia.*)
checking device. **Galbiati.** 24 S. 1881. II, **12**, 852 (**26**, 402).
— **Rainoldi.** 3 Ag. 1881. II, **12**, 720 (**26**, 270), pl. 184.
collar. **Dauner.** 16 F. 1875. II, **6**, 63 (**15**, 331), pl. 14.
— **Martens e Dehmlow.** 30 Ag. 1879. II, **10**, 584 (**22**, 284), pl. 163.
detaching apparatus. **Mainetti.** 28 S. 1880. II, **11**, 669 (**24**, 270), pl. 191. Ad. **11**, 838 (**24**, 439), pl. 238.
— **Nicastro.** 30 S. 1880. II, **11**, 679 (**24**, 280), pl. 195.
— **Walker.** 20 O. 1881. II, **12**, 933 (**26**, 483), pl. 248.
mill. **Bruno.** 7 My. 1875. II, **6**, 221 (**15**, 489), pl. 46.

HORSE—continued.
power. **Lembrock.** 30 S. 1881. II, **12**, 882 (**26**, 432), pl. 234.
— **Menada.** 30 S. 1856. (**1**, 249.)* (*Sardinia.*)
— **Pinet.** 30 S. 1855. (**1**, 140)—Ex. (**1**, 14).* (*Sardinia*)—Ex. I, **1**, 123 (**5**, 59).
— **Pontari.** 23 O. 1880. II, **11**, 736 (**24**, 337), pl. 214.
— **Rambaldini e Gambino.** 11 Ap. 1874. II, **5**, 149 (**44**, 258), pl. 33.
— **Salomone.** 25 F. 1873. II, **4**, 95 (**13**, 75), pl. 26.
— **Salomone.** 6 Mr. 1874. II, **5**, 88 (**14**, 197), pl. 19.
— **Testa.** 22 Ja. 1876. II, **7**, 33 (**16**, 485), pl. 9.
— **Ziccardi.** 31 My. 1879. II, **10**, 320 (**22**, 20), pl. 85. Ad. II, **11**, 69 (**23**, 170), pl. 22.
scrubbing machine. **Gasparotti.** 3 Je. 1865. I, **2**, 185 (**6**, 169), pl. 47.
taming rod. **Sala.** 17 Ja. 1870. II, **1**, 7 (**10**, 7), pl. 1.
unhitching device. **Cocapieller.** 4 S. 1874. II, **5**, 435 (**15**, 44), pl. 102.
HORSESHOE. **Arfossi e Bruzzone.** 31 Mr. 1858. (**2**, 41.)* (*Sardinia.*)
Aureli. 14 Je. 1872. II, **3**, 243 (**12**, 143), pl. 65.
Boni. 28 Mr. 1870. II, **1**, 125 (**10**, 125), pl. 30.
Downie e Harris. 18 Je. 1869. I, **6**, 248 (**9**, 264), pl. 79.
Goodenough. 22 N. 1869. I, **6**, 426 (**9**, 442), pl. 140.
Lampe. 23 O. 1880. II, **11**, 737 (**24**, 338), pl. 214.
Lancaster. 21 N. 1878. II, **9**, 713 (**21**, 68), pl. 213.
Latapie. 6 Ag. 1878. II, **9**, 490 (**20**, 345), pl. 150.
Luchaire. 4 N. 1880. II, **11**, 782 (**24**, 383), pl. 225—Ex. **12**, 1217 (**27**, 267).
Maffiolini. 12 Ap. 1876. II, **7**, 186 (**17**, 138), pl. 44. Ad. **8**, 365 (**18**, 455), pl. 97.
Mampieri. 23 Ag. 1867. I, **4**, 288 (**7**, 428), pl. 86.
Mazza. 11 My. 1872. II, **3**, 194 (**12**, 94), pl. 58.
Peschell. 14 Ap. 1864. I, **1**, 122 (**5**, 58), pl. 13.
Rossi. 30 N. 1875. II, **6**, 626 (**16**, 394), pl. 153.
Rossi. 2 Mr. 1876. II, **7**, 130 (**17**, 82), pl. 27.
Rossi. 30 Je. 1879. II, **10**, 432 (**22**, 132), pl. 119.
Russel. 29 My. 1877. II, **8**, 304 (**18**, 394), pl. 83.
Saitto. 26 Ag. 1875. II, **6**, 448 (**16**, 216), pl. 104.
Société continentale caoutchouc et gutta-percha de Hannovre. 29 My. 1875. II, **6**. 268 (**16**, 36), pl. 59.
Thuillard. 14 My. 1874. II, **5**, 243 (**14**, 352), pl. 55.
Tolotti. 18 Je. 1868. I, **5**, 214 (**8**, 284), pl. 55—Ex. II, **6**, 633 (**16**, 401); **6**, 648 (**16**. 416); **9**, 378 (**20**, 233).
Tolotti. 13 S. 1871. II, **2**, 304 (**11**, 226), pl. 66.
Tolotti. 23 Ja. 1875. II, **6**, 34 (**15**, 302), pl. 9. Ad. **6**, 228 (**15**. 496), pl. 47.
Vellani. 18 S. 1877. II, **8**, 528 (**19**, 118), pl. 133.
Very. 20 Ap. 1880. II, **11**, 229 (**23**, 330), pl. 67.
Von Landy, Carr e Dühring. 15 N. 1877. II, **8**, 662 (**19**, 252), pl. 174.
bending machine. **Mazzoleni.** 31 Mr. 1871. II, **2**, 91 (**11**, 14), pl. 14.
convergence correcting. **Tubi.** 31 Mr. 1860. (**2**, 320).* (*Sardinia.*)
elastic. **Peillard.** 20 D. 1866. I, **3**, 301 (**7**, 127), pl. 85. Ad. **5**. 48 (**8**, 118), pl. 13—Ex. II, **1**, 35 (**10**, 35).
machine. **Horseshoe Manufacturing Company.** 28 Mr. 1881. II, **12**, 233 (**25**, 283), pl. 56.
— **Pittoluga.** 15 S. 1879. II, **10**, 588 (**22**, 288), pl. 166.
— **Shanks.** 31 Jl. 1879. II, **10**, 517 (**22**, 217), pl. 147.
— **Vezzoli.** 19 D. 1864. I, **1**, 526 (**5**, 463), pl. 86.
— **Vezzoli.** 22 My. 1869. I, **6**, 203 (**9**, 219), pl. 66.
— **Wheeler.** 8 Je. 1865. I, **2**, 156 (**6**, 140), pls. 37, 38.
— machine for making parts of. **Bastien.** 19 Jl. 1865. I, **2**, 201 (**6**, 185), pl. 55. Ad. **2**, 333 (**6**, 317), pl. 103.
manufacture. **Bastien.** 30 D. 1864. I, **1**, 555 (**5**, 492), pl. 96—Ex. **2**, 329 (**6**, 313). Ad. **2**, 332 (**6**, 316), pls. 104, 105; **4**, 189 (**7**, 329), pl. 54.
— **Von Landy, Carr e Dühring.** 15 N. 1877. II, **8**, 662 (**19**, 252), pl. 174.
nail. **Fabbri.** 30 S. 1875. II, **6**, 521 (**16**, 289), pl. 127—Ex. **7**, 556 (**18**, 9).
— machine. **Acme Horseshoe Nail Company Limited.** 19 Mr. 1881. II, **12**, 209 (**25**, 259), pl. 50.
— — **Brundage.** 10 My. 1880. II, **11**, 290 (**22**, 391), pl. 85.
— — **Coleman.** 7 Ap. 1881. II, **12**, 294 (**25**, 344), pls. 70, 71.
— — **Fuller.** 24 S. 1872. II, **3**, 435 (**12**, 335), pl. 106—Ex. **6**, 504 (**16**, 272).

HORSESHOE nail—continued.
— manufacture. **Fuller.** 29 Jl. 1872. II, **3**, 338 (**12**, 238), pl. 86—Ex. **6**, 384 (**16**, 151); **9**, 471 (**20**, 326).
— — **Fuller.** 29 Jl. 1872. II. **3**, 339 (**12**. 239), pl. 87—Ex. **6**, 384 (**16**, 152); **9**, 472 (**20**, 327).
— — **Wheeler e Loring.** 27 Ag. 1879. II, **10**, 577 (**22**, 277). pl. 163.
pad. **Corbellini.** 29 D. 1873. II, **4**, 619 (**14**, 99), pl. 170.
— **Kästner.** 8 Je. 1877. II, **8**, 324 (**18**, 414), pl. 87.
— **Pennings.** 30 Mr. 1874. II. **5**, 128 (**14**, 237), pl. 25.
HOSE-COUPLING. **Cooman e Dallard.** 6 Je. 1881. II, **12**, 509 (**26**, 59), pl. 127.
Grether. 28 Je. 1878. II. **9**, 409 (**20**, 264), pl. 120—Ex. **10**, 351 (**22**, 51); **11**, 245 (**23**, 346).
HOT-AIR pipe. **Depuis.** 19 Je. 1878. II, **9**, 382 (**20**, 237), pl. 107.
HOT-BED frame. **Carpentier.** 25 My. 1880. II, **11**, 334 (**23**, 435), pl. 95.
HOUSE. *See also* Bath, Grain, Ice.
Sery. 28 Jl. 1881. II, **12**, 674 (**26**, 224), pl. 172.
HULL. **Béléguic.** 28 Jl. 1873. II, **4**, 356 (**13**, 336), pl. 93.
HULLER. *See* Bean, Clover, Cottonseed, Grain, Rice.
HYDRANT. **Bopp e Reuther.** 19 Ag. 1881. II, **12**, 750 (**26**, 300), pl. 196.
Moriggia. 21 Mr. 1874. II, **5**, 102 (**14**, 211), pl. 23.
HYDRATE. *See* Ammonium, Iron ferric, Magnesium, Potassium, Silicon, Sodium.
HYDRAULIC apparatus. **Nagel e Kaemp.** 22 O. 1874. II, **5**, 497 (**15**, 106), pl. 117.
— **Pessanti.** 16 Je. 1865. I. **2**, 171 (**6**, 155), pl. 44.
— called "hydro-italic." **Franzi.** 31 Mr. 1863. (**4**, 7.)*
aspirator. **Turrettini.** 29 D. 1874. II. **5**, 645 (**15**, 254), pl. 152—Ex. **11**, 654 (**24**, 255).
bellows. **Rosange.** 24 D. 1870. II, **1**, 407 (**10**, 407), pl. 103—Ex. **5**, 2 (**14**, 111).
brake. **Barker.** 30 Ap. 1877. II, **8**, 242 (**18**, 332), pls. 68, 69.
— **Canet.** 31 O. 1881. II, **12**, 968 (**27**, 18), pl. 258.
— **Cozza e Corseri.** 25 Mr. 1876. II, **7**, 137 (**17**, 89), pl. 31—Ex. **8**, 187 (**18**, 277).
"collana" (necklace). **Gandolfo.** 31 D. 1861. (**3**, 191.)*
crane. **Armstrong.** 30 Je. 1855. (**1**, 46)* (*Sardinia.*)
dough-press. **Henry.** 4 S. 1875. II, **6**, 465 (**16**, 233), pl. 108.
drill. **Brandt.** 17 F. 1876. II, **7**, 67 (**17**, 19), pl. 16. Ad. **8**, 10 (**18**, 100), pl. 2—Ex. **13**, 195 (**27**, 487).
elevator. **Borel.** 30 Je. 1856. (**1**, 174.)* (*Sardinia.*)
— **Bourgeois du Marais e Doudart de la Grée.** 7 Ap. 1882. II, **13**, 298 (**28**, 70), pl. 79.
— **Clark, Standfield e Clark.** 7 Mr. 1882. II, **13**, 169 (**27**, 441), pls. 48, 49.
— **Ditta Impresa di costruzioni fratelli Klein et Schmoll et Gaertner.** 18 Jl. 1878. II, **9**, 454 (**20**, 309), pls. 134, 135).
— **Heurtebise.** 13 Ja. 1880. II, **11** 11 (**23**, 112), pl. 4.
— **Minisini.** 19 N. 1880. II, **11**, 814 (**24**, 415), pl. 236. Ad. **12**, 1187 (**27**, 237), pl. 333—Ex. **12**, 1212 (**27**, 262).
— **Samain.** 28 O. 1878. II, **9**, 662 (**21**, 17), pl. 205.
— **Stigler.** 5 My. 1874. II, **5**, 205 (**14**, 314), pl. 43—Ex. **8**, 395 (**18**, 485); **11**, 464 (**24**, 65).
engine. **Bonalda.** 5 F. 1866. I, **3**, 19 (**6**, 345), pl. 4.
— **Campo fratelli.** 31 Mr. 1857. (**1**, 350.)* (*Sardinia.*)
— **Cavanna.** 31 Mr. 1857. (**1**, 410.)* (*Sardinia.*)
— **Cavanna.** 30 Mr. 1861. (**3**, 54.)*
— **Cavanna.** 21 Jl. 1864. I, **1**, 363 (**5**, 300), pl. 62.
— **Coignard.** 31 Mr. 1862. (**3**, 242.)*
— **Demonte.** 17 Ja. 1874. II, **5**, 15 (**14**, 124), pl. 2.
— **Demonte e Vanini.** 10 Ja. 1853. (40.)* (*Sardinia.*)
— **Dolgorouky.** 28 O. 1878. II, **9**, 652 (**21**, 7), pl. 204. Ad. **10**, 587 (**22**, 287), pl. 166.
— **Fantario.** 17 S. 1875. II, **6**, 488 (**16**, 256), pls. 117, 118.
— **Ferraris.** 10 Je. 1880. II, **11**, 371 (**23**, 472), pl. 105.
— **Fink.** 9 Ap. 1877. II, **8**, 184 (**18**, 274), pl. 49.
— **Gazzano.** 28 N. 1868. I, **5**. 384 (**8**, 455), pl. 114.
— **Girard.** 31 Mr. 1861. (**3**, 47)*—Ex. I, **3**, 105 (**6**, 431); II, **1**, 94 (**10**, 94); **2**, 94 (**11**, 16).
— **Girard.** 17 Je. 1870. II, **1**, 246 (**10**, 246), pls. 61, 62.
— **Grandio, Grattoni e Sommeiller.** 15 Ja. 1856. (61.)* (*Sardinia.*)

HYDRAULIC engine—continued.
— **Manassero.** 22 F. 1876. II, **7**, 79 (**17**, 31), pl. 21.
— **Meriggioli.** 30 Je. 1879. II, **10**, 423 (**22**, 123), pl. 123. Ad. **10**. 798 (**22**, 123), pl. 219.
— **Millot ed al.** 2 Ag. 1864. I, **1**, 398 (**5**, 335), pl. 40.
— **Mirfin.** 17 F. 1869. I, **6**, 59 (**9**, 75).
— **Muriggioli.** 15 Je. 1878. II, **9**, 375 (**20**, 230), pl. 99.
— **Nash.** 14 Ap. 1882. II, **13**, 320 (**28**, 92), pl. 86.
— **Paolo'ti.** 15 Mr. 1878. II, **9**, 140 (**19**, 495), pl. 35.
— **Piatti e de Mutrecy.** 5 Je. 1873. II, **4**, 262 (**13**, 242), pl. 69.
— **Ponçon.** 31 D. 1857. (**1**, 315.)* (*Sardinia.*)
— **Predavalle.** 22 F. 1866. I, **3**, 42 (**6**, 368), pl. 13.
— **Predavalle.** 2 F. 1871. II, **2**, 22 (**10**, 444).
— **Ronchi.** 30 Je. 1860. (**2**, 408.)* (*Sardinia.*)
— **Schmid.** 13 S. 1871. II, **2**, 309 (**11**, 231), pl. 66.
— **Sempre-Amore.** 13 N. 1871. II, **2**, 399 (**11**, 321), pl. 87.
— **Taddei.** 20 Ag. 1877. II, **8**, 493 (**19**, 83), pl. 125.
— **Termini.** 14 Jl. 1864. I, **1**, 335 (**5**, 272), pl. 63.
— **Vila y Jové.** 22 Ja. 1867. I, **4**, 35 (**7**, 174), pls. 12–14.
— **Wyss e Studer.** 22 D. 1873. II, **4**, 606 (**14**, 86), pl. 169.
— and telegraphic apparatus. **Mirfin.** 25 Je. 1866. I, **3**, 158 (**6**, 484), pl. 49.
— underground. **Toro.** 26 D. 1867. I, **4**, 412 (**8**, 53).
jack. **Eiffel.** 31 My. 1864. I, **1**, 274 (**5**, 210), pl. 26.
locomotive. **Antonini.** 31 Mr. 1861. (**3**, 22.)* Ad. (**1**, 97).*
— **Benati e Gastaldon.** 30 S. 1855. (**1**, 133.)* (*Sardinia.*)
— **Coletti.** 30 Je. 1861. (**3**, 41.)* Ad. (**1**, 101) (**1**, 95).
— **de Lorenzi ed Henfrey.** 30 Je. 1855. (**1**, 8.)* (*Sardinia.*)
— **Recalcati.** 31 D. 1862. (**3**, 366.)*
— **Resio.** 30 S. 1861. (**3**, 129.)*
mill. **Mottola fratelli.** 8 O. 1870. II, **1**, 366 (**10**, 366), pl. 97.
perpetual motion. **Coignard.** 30 Je. 1861. (**3**, 62.)*
power collecting. **Zucchetti.** 31 Ja. 1874. II, **5**, 33 (**14**, 142), pl. 4.
press. **Decombe.** 12 D. 1880. II, **11**, 32 (**23**, 133), pl. 5.
— **Desgoffe.** 1 O. 1864. I, **1**, 454 (**5**, 391), pl. 74.
— **Girard.** 17 Je. 1870. II, **1**, 246 (**10**, 246), pls. 61, 62.
— **Masera.** 18 Je. 1869. I, **6**, 250 (**9**, 266), pl. 79.
— **Masera.** 22 O. 1874. II, **5**, 514 (**15**, 123), pl. 122.
— **Pilella.** 2 Ag. 1865. I, **2**, 218 (**6**, 202), pl. 58.
— **Robert de Massy.** 27 My. 1865. I, **2**, 150 (**6**, 134), pl. 41.
— **Roux, Pellissier et Comp.** 31 Ja. 1876. II, **7**, 35 (**16**, 407), pl. 10.
— **Roy e Comp.** 24 S. 1875. II, **6**, 510 (**16**, 278), pl. 124.
— drier. **Henry.** 31 D. 1875. II, **6**, 678 (**16**, 446), pl. 173.
— motor. **Tommasi.** 15 D. 1871. II, **2**, 454 (**11**, 376), pl. 96—Ex. **4**, 31 (**13**, 11). Ad. **4**, 182 (**13**, 162), pl. 48.
railway. **Cavalli.** 7 My. 1868. I, **5**, 112 (**8**, 182), pl. 26.
ram, engine. **Hemion.** 30 S. 1871. II, **2**, 329 (**11**, 251), pl. 72.
steering apparatus. **Lefargue et Martin.** 26 D. 1877. II, **8**, 734 (**19**, 324), pl. 196.
transmission. **Airaghi.** 16 O. 1880. II, **11**, 723 (**24**, 324).
— **Goodrich.** 7 F. 1879. II, **10**, 56 (**21**, 256), pl. 17.
— **Pozzoli.** 29 D. 1874. II, **5**, 638 (**15**, 247), pl. 151.
tug. **Agudio.** 30 S. 1857. (**2**, 2)*—Ex. (**1**, 28). (*Sardinia.*)
water elevator. **Woodford.** 31 Mr. 1863. (**4**, 6.)*
windlass. **Podestà.** 25 Je. 1875. II, **6**, 342 (**16**, 110), pl. 74.

HYDROCARBON. **Mauro.** Ad. (**1**, 27.)*
Stella e Jovane. 31 Mr. 1857. (**1**, 384.)* (*Sardinia.*)
apparatus, producing light, heat, and motive power. **Rossi.** 15 F. 1880. II, **11**, 76 (**23**, 177), pl. 28.
burning apparatus. **Macomber.** 2 My. 1868. I, **5**, 104 (**8**, 174), pl. 26.
extracting. **Testud de Beauregard e Martin.** 14 F. 1873. II, **4**, 71 (**13**, 51), pl. 19.
furnace. 8 My. 1869. I, **6**, 183 (**9**, 199), pl. 66.
industrial application. **Vedovi.** 26 O. 1864. I, **1**, 476 (**5**, 413).

HYDROCARBON—continued.
manufacture. **Degola ed al.** 29 N. 1865. I, **2**, 316 (**6**, 300).
oil bleaching. **d'Ofenheim.** 15 S. 1879. II, **10**, 605 (**22**, 305). Ad. **10**, 753 (**22**, 453); **11**, 397 (**23**, 498), pl. 114.
producing and burning apparatus. **Mennons.** 31 Ag. 1868. I, **5**, 299 (**8**, 369), pl 96.
treating. **Best.** 30 S. 1863. (**4**, 85.)*
— **Cordier et Krafft.** 26 D. 1877. II, **8**, 738 (**19**, 328).
— for insecticide. **Déperais.** 27 S. 1879. II, **10**, 616 (**22**, 316).

HYDRODYNAMIC toy. **Meriggioli.** 3 Ag. 1868. I, **5**, 257 (**8**, 327), pl. 79.

HYDROGEN manufacture. **Egasse.** 31 D. 1879. II, **10**, 883 (**23**, 83), pl. 246.
— **Tessié du Motay.** 13 Mr. 1868. I, **5**, 21 (**8**, 91).

HYDRO-OXYGEN light. **Carlevaris.** 16 Je. 1865. I, **2**, 161 (**6**, 145). Ad. **3**, 111 (**6**, 437).

HYDRO PNEUMATIC engine. **Salvatico.** 5 Je. 1873. II, **4**, 266 (**13**, 246), pl. 69.

HYDROSTATIC press. **Luthy.** 31 Mr. 1864. (**4**, 159.)*

HYGROMETER. **Klinkerfues.** 20 Mr. 1875. II, **6**, 116 (**15**, 381), pl. 24.

HYPSOMETER. **Porro.** 17 F. 1872. II, **3**, 50 (**11**, 450), pl. 15.

ICE machine. **Carré.** 30 Je. 1860. (**2**, 404.)* (*Sardinia*)—Ex. **1**, 125 (**5**, 61); **3**, 167 (**6**, 493).
— **Carré et Jullien.** 30 N. 1877. II, **8**, 689 (**19**, 279), pls. 182–184.
— **Cook.** 9 Ag. 1878 II, **9**, 512 (**20**, 367), pl. 160.
— **Della Beffa e figlio.** 30 D. 1871. II, **2**, 475 (**11**, 397), pl. 98.
— **Egells.** 26 Ap. 1879. II, **10**, 240 (**21**, 440), pl. 73. Ad. **11**, 389 (**23**, 490), pls. 111, 112.
— **Giffard.** 18 Ap. 1879. II, **10**, 229 (**21**, 429), pl. 66.
— **Knott.** 31 O. 1879. II, **10**, 705 (**22**, 405), pl. 193.
— **Kyle.** 20 My. 1878. II, **9**, 316 (**20**, 171), pl. 86.
— **Lancia ed al.** 5 Jl. 1864. I, **1**, 331 (**5**, 267), pl. 85—Ex. **2**, 208 (**6**, 194). Ad. **6**, 115 (**9**, 131), pl. 39.
— **Linde.** 26 D. 1877. II, **8**, 745 (**19**, 335), pl. 199.
— **MacGouch.** 3 F. 1875. II, **6**, 49 (**15**, 317), pl. 11—Ex. **9**, 199 (**20**, 54).
— **Mackay.** 31 D. 1879. II, **10**, 868 (**23**, 68), pl. 247.
— **Mattazzi.** 30 Je. 1863. (**3**, 472.)*
— **Pictet.** 13 Ag. 1875. II, **6**, 431 (**16**, 199), pls. 98, 99.
— **Schultz.** 8 F. 1878. II, **9**, 46 (**19**, 401), pl. 11.
— **Siddeley e Mackay.** 18 My. 1878. II, **9**, 313 (**20**, 168), pl. 85.
— **Torassa.** 22 Je. 1864. I, **1**, 319 (**5**, 255), pl. 39—Ex. **4**, 379 (**8**, 20).
— **Toselli.** 30 S. 1862. (**3**, 317.)*
— **Toselli.** 8 Je. 1867. I, **4**, 185 (**7**, 325), pls. 55–57—Ex. **6**, 228 (**9**, 244). Ad. II. **2**, 135 (**11**, 57), pl. 28.
— **Windhausen.** 30 S. 1869. I, **6**, 370 (**9**, 386), pl. 128—Ex. II, **3**, 385 (**12**, 285).
— **Windhausen.** 27 O. 1873. II, **4**, 520 (**13**. 500), pl. 149.
— **Young.** 27 S. 1879. II, **10**, 647 (**22**, 347), pl. 177.
manufacture. **Martin.** 5 My. 1874. II, **5**, 208 (**14**, 317), pl. 46—Ex. **8**, 314 (**18**, 404).
— **Martin e Beath.** 17 Jl. 1873. II, **4**, 354 (**13**, 334), pl. 94—Ex. **7**, 474 (**17**, 426).
— **Piatti.** 30 S. 1856. (**1**, 278.)* (*Sardinia.*)
— **Rossi e Beckwith.** 31 Ja. 1881, II, **12**, 43 (**25**, 93), pl. 9.
— **Siddeley e Mackay.** 18 My. 1878. II, **9**, 312 (**20**, 167), pl. 85.
— **Siddeley e Mackay.** 18 My. 1878. II, **8**, 314 (**20**, 169), pl. 85.
— **Skene.** 12 N. 1879. II. **10**, 732 (**22**, 432), pl. 201.
— **Terrachini.** 19 Je. 1872. II, **3**, 262 (**12**, 162).
— from snow. **Cosimini.** 28 Ag. 1866. I, **3**, 192 (**7**, 18)—Ex. **4**, 300 (**7**, 440).
shaver. **Ghiringhelli.** 7 F. 1877. II, **8**, 54 (**18**, 144), pl. 16.

ICE-CREAM freezer. **Penant.** 22 Je. 1864. I, **1**, 318 (**5**, 254), pl. 32.
— **Proto.** 30 Je. 1862. (**3**. 275.)*
— **Saino.** 22 My. 1866. I, **3**, 138 (**6**, 464), pl. 42. Ad. **6**, 152 (**9**, 168). pl. 47—Ex. **6**, 245 (**9**, 261).
— **Tarditi.** 30 Je. 1863. (**3**, 478.) Ad. (**1**, 131.)* I, **1**, 411 (**5**, 348), pl. 42—Ex. I, **1**, 412 (**5**, 349).
— **Toselli.** 8 Je. 1867. I, **4**, 185 (**7**, 325), pls. 55–57—Ex. **6**, 228 (**9**, 244). Ad. II, **2**, 135 (**11**, 57), pl. 28.

ICE-HOUSE. **Brainard.** 9 Mr. 1872. II, **3**, 55 (**11**, 455), pl. 16—Ex. **4**, 302 (**13**, 282).
ILLUMINATING liquid, "idrofoto." **Coddé.** 31 D. 1856. (**1**, 330.)* (*Sardinia.*)
INCLINED PLANE. **Fabbricotti.** 8 My. 1869. I, **6**, 176 (**9**, 192), pl. 54.
brake. **Contanfini e Paoletti.** 24 Jl. 1872. II, **3**, 325 (**12**, 225), pl. 83.
INCUBATOR. **de Bellesini.** 16 Ap. 1881. II, **12**, 323 (**25**, 373), pl. 75.
Corozi. 11 Je. 1881. II, **12**, 529 (**26**, 79), pl. 133.
Michaëlis. 12 S. 1881. II, **12**, 817 (**26**, 367), pl. 217.
INDIA-RUBBER button manufacture. **Lambermont.** 26 Jl. 1879. II, **10**, 501 (**22**, 201), pl. 144. Ad. **10**, 602 (**22**, 302), pl. 171.
dissolving in hydrocarbon. **Beckers.** 13 Jl. 1880. II, **11**, 463 (**24**, 64).
mold. **Maguin ed al.** 30 D. 1864. I, **1**, 533 (**5**, 470).
pens, tubes, etc. **Steinless.** 30 S. 1856. (**1**, 237.)* (*Sardinia.*)
pipe manufacture, cloth-covered. **Bender e Martigny.** 27 F. 1882. II, **13**, 135 (**27**, 407).
scrap regenerating. **Eschenbach.** 14 O. 1879. II, **10**, 674 (**22**, 374)—Ex. **12**, 631 (**26**, 181).
tension motor. **Duncker.** 20 S. 1880. II, **11**, 637 (**24**, 238), pl. 185.
waste utilizing. **Clarck.** 29 Ja. 1881. II, **12**, 49 (**25**, 89).
INDICATOR. *See* Current, Gas-leak, Lock, Locomotive speed, Railway speed, Rudder, Ship course, Ship speed, Speed, Steam-engine, Steam-engine speed, Steam pressure, Water-closet, Water depth, Water level.
INDIGO extract preparing. **Borra e Malatesta.** 19 Ag. 1881. II, **12**, 753 (**26**, 303).
manufacture. **Baeyer.** 25 My. 1880. II, **11**, 331 (**23**, 432).
— **Lightfoot.** 10 Ag. 1868. I, **5**, 277 (**8**, 347).
revivifying. **Kallab.** 16 My. 1878. II, **9**, 300 (**20**, 155).
INHALER. **Stackfleth.** 20 O. 1880. II, **11**, 725 (**24**, 326), pl. 209.
INJECTOR. **Bouvret.** 12 Mr. 1873. II, **4**, 111 (**13**, 91), pl. 32.
Dülken. 16 Ag. 1877. II, **8**, 473 (**19**, 63), pl. 122.
Ferrero. 19 Ap. 1873. II, **4**, 175 (**13**, 155), pl. 47.
Friedmann. 25 Ja. 1878. II, **9**, 37 (**19**, 392), pl. 8.
Giffard. 30 Je. 1859. (**2**, 234.)* (*Sardinia*)—Ex. I, **1**, 152 (**5**, 88); **2**, 206 (**6**, 190); II, **2**, 195 (**11**, 117).
Haddan. 24 D. 1878. II, **9**, 779 (**21**, 134), pl. 231—Ex. **11**, 71 (**23**, 172).
Hamer, Metcalfe e Davies. 30 S. 1876. II, **7**, 476 (**17**, 428), pl. 119.
Haswell. 11 My. 1877. II, **8**, 265 (**18**, 355), pl. 73.
Mazza. 31 D. 1874. II, **5**, 656 (**15**, 265).
Mazza. 3 F. 1877 II, **8**, 42 (**18**, 132), pls. 10–12.
Schaeffer e Budenberg. 16 Ap. 1881. II, **12**, 324 (**25**, 374), pl. 76.
Turck. 31 Mr. 1864. (**4**, 181)*—Ex. I, **2**, 86 (**6**, 70).
Vabe. 25 Mr. 1878. II, **9**, 149 (**20**, 4), pl. 37.
condenser. **Mazza.** 20 F. 1880. II, **11**, 79 (**28**, 180), pl. 24.
Giffard. **Schaffer.** 17 Ja. 1866. I, **3**, 8 (**6**, 334), pl. 5—Ex. **4**, 13 (**7**, 152), pl. 3; II, **2**, 440 (**11**, 362).
hydrocarbon. **Ribighini.** 25 My. 1878. II, **9**, 331 (**20**, 186), pl. 84.
locomotive. **Wetter.** 2 Mr. 1881. II, **12**, 135 (**25**, 185), pl. 33.
steam-boiler. **Barclay.** 12 F. 1867. I, **4**, 58 (**7**, 197), pls. 22, 23—Ex. II, **1**, 89 (**10**, 89).
INK. **Lambertenghi fratelli.** 28 Mr. 1879. II, **10**, 173 (**21**, 373).
Orsenigo. 17 Ja. 1878. II, **9**, 12 (**19**, 367).
copying. **Bolis.** 22 D. 1868. I, **5**, 437 (**9**, 8).
— **Boy.** 12 S. 1865. I, **2**, 243 (**6**, 227).
— **Jacobsen.** 11 F. 1875. II, **6**, 60 (**15**, 328).
indelible. **Gaffard.** 12 Je. 1874. II, **5**, 283 (**14**, 392).
phosphorescent. **Caratti.** 24 Mr. 1869. I, **6**, 123 (**9**, 139).
printer's. **Hulot.** 3 Mr. 1865. I, **2**, 62 (**6**, 46)—Ex. **5**, 86 (**8**, 156).
— **Kircker e Ebner.** 23 O. 1869. I, **6**, 392 (**9**, 408).
printing. **Platel.** 15 D. 1874. II, **5**, 603 (**15**, 212).
— **Wilhelm e Rohnstadt.** 20 Ja. 1880. II, **11**, 25 (**23**, 126).
INKSTAND. **Bernardi.** 19 D. 1868. I, **5**, 412 (**8**, 483), pl. 119.
Farfara e Grenet. 30 Mr. 1874. II, **5**, 146 (**14**, 255), pl. 31.
Hofmann. 6 Ag. 1880. II, **11**, 536 (**24**, 137), pl. 149.
Klingspor. 30 Mr. 1878. II, **9**, 186 (**20**, 41), pl. 48.
Rondel. 12 D. 1872. II, **3**, 537 (**12**, 437), pl. 130.
INLAYING. **Neri.** 21 D. 1881. II, **12**, 1145 (**27**, 195).
Yung. 12 D. 1879. II, **10**, 821 (**23**, 21).
gold on silver. **Rinaldini.** 28 Jl. 1881. II, **12**, 681 (**26**, 231), pl. 167.
metals. **Von Wiersbitzky.** 19 Je. 1880. II, **11**, 398 (**23**, 499).
wood. **Bronzini.** 6 S. 1880. II, **11**, 620 (**24**, 221), pl. 174.
— and stone. **Ferigo.** 19 D. 1868. I, **5**, 404 (**8**, 475)—Ex. II, **2**, 12 (**10**, 434).
INSECT destroying. **Pourché.** 5 My. 1874. II, **5**, 207 (**14**, 316), pl. 44.
— in clothing. **Ricci.** 29 Jl. 1872. II, **3**, 340 (**12**, 240), pl. 85.
— on cattail. **Lopez de Gonzalo.** 20 Mr. 1880. II, **11**, 152 (**23**, 253)—Ex. **12**, 266 (**25**, 316).
— phylloxera. **Böhm.** 22 Mr. 1881. II, **12**, 220 (**25**, 270), pl. 53.
— — **Montelatici.** 27 S. 1879. II, **10**, 645 (**22**, 345), pl. 177.
— — **Société la reconstitution viticole.** 31 D. 1881. II, **12**, 1214 (**27**, 264), pl. 339.
raising to feed fish. **Vignier.** 16 Ag. 1879. II, **10**, 557 (**22**, 257).
trap. **Ferrino.** 5 Jl. 1875. II, **6**, 351 (**16**, 119), pl. 77.
INSECTICIDE. **Bergagna.** 30 S. 1858. (**2**, 99.)* (*Sardinia.*)
Bignami. 19 D. 1868. I, **5**, 415 (**8**, 480).
Carret. 27 Ag. 1874. II, **5**, 417 (**15**, 26).
Davis. 29 My. 1875. II, **6**, 267 (**16**, 35)—Ex. **7**, 236 (**17**, 188).
Grandis. 30 N. 1877. II, **8**, 694 (**19**, 284).
Koch e Schuhler. 14 D. 1881. II, **12**, 1105 (**27**, 155).
Müller. 9 F. 1874. II, **5**, 44 (**14**, 153)—Ex. **6**, 167 (**15**, 435); **7**, 180 (**17**, 132); **8**, 196 (**18**, 286).
Pourneyrol-Peyrat. 14 N. 1874. II, **5**, 557 (**15**, 166).
Ratti. 30 Je. 1858. (**2**, 93.)* (*Sardinia.*)
Ricca. 25 O. 1881. II, **12**, 939 (**26**, 489).
distributer. **Gastine.** 20 Mr. 1882. II, **13**, 212 (**27**, 484), pls. 58–60.
fertilizer. **Alengrin.** 21 D. 1880. II, **11**, 879 (**24**, 480).
— **de Chiaves.** 20 N. 1880. II, **11**, 819 (**24**, 420).
— **Forno** 20 Ja. 1880. II, **11**, 34 (**23**, 135).
manufacture. **Déperais.** 27 S. 1879. II, **10**, 616 (**22**, 316).
phylloxera. **Boyreau.** 9 N. 1881. II, **12**, 981 (**27**, 31).
— **Casanova.** 27 F. 1882. II, **13**, 142 (**27**, 414).
— **Laborde.** 28 Ja. 1881. II, **12**, 25 (**25**, 75).
— **Meyer.** 17 N. 1875. II, **6**, 590 (**16**, 358)—Ex. **7**, 533 (**17**, 486); **8**, 710 (**19**, 300); **10**, 202 (**21**, 402).
— **Peretto.** 16 N. 1880. II, **11**, 809 (**24**, 410).
INSTRUMENT. *See* Acoustic, Angle measuring, Astronomical, Castrating, Curve-drawing, Drawing, Geometric, Latitude, Measuring, Model-making, Musical, Surveying.
INSULATING material manufacture. **Fleming.** 27 F. 1882. II, **13**, 140 (**27**, 412), pl. 36.
wire. **Arbogast e Tighe.** 14 O. 1879. II, **10**, 667 (**22**, 367), pl. 181.
— **Menier.** 13 Ja. 1877. II, **8**, 11 (**18**, 101), pl. 1.
INSULATOR. **Brooks.** 31 Mr. 1879. II, **10**, 183 (**21**, 383), pl. 57.
Chinnock e Harrison. 28 F. 1880. II, **11**, 111 (**23**, 212), pl. 37.
Erckmann. 11 Mr. 1865. I, **2**, 65 (**6**, 49).
manufacture. **Callender.** 27 F. 1882. II, **13**, 137 (**27**, 409).
INVALID-SUPPORTER. **Cacciari.** 22 F. 1866. I, **3**, 36 (**6**, 362). Ad. to **2**, 233 (**6**, 217).
Décamp. 13 Je. 1872. II, **3**, 316 (**12**, 216), pl. 81.
IODIDE manufacture. **Conti.** 14 Je. 1873. II, **3**, 242 (**12**, 142). Ad. **4**, 170 (**13**, 150); **4**, 441 (**13**, 421); **6**, 417 (**16**, 185).
solution evaporating. **Conti.** 22 My. 1871. II, **2**, 140 (**11**, 62). Ad. **2**, 416 (**11**, 338); **3**, 73 (**11**, 473)—Ex. **5**, 331 (**14**, 440); **8**, 388 (**18**, 478); **11**, 513 (**24**, 114).

IODINE extraction. **Babacci.** 3 F. 1881. II, **12**, 61 (**25**, 111), pl. 19.
manufacture. **Guerri.** 18 N. 1871. II, **2**, 404 (**11**, 326).
IRON. *See also* Soldering.
alloy for projectiles. **Bozza.** 20 D. 1866. I, **3**, 293 (**7**, 119).
article manufacture. **Wheeler.** 23 Je. 1874. II, **5**, 294 (**14**, 403), pl. 67.
bending machine. **Tarizzo e Ansaldi.** 29 Ap. 1882. II, **13**, 375 (**28**, 147), pl. 99.
casting furnace. **Heurtier, Carré e Comp.** 20 Je. 1875. II, **6**, 330 (**16**, 98), pl. 69.
coating, preventing rust. **Domingo.** 23 Jl. 1869. I, **6**, 294 (**9**, 310).
converter. **Berio.** 7 Mr. 1882. II, **13**, 157 (**27**, 429), pl. 44.
converting. **Esposito.** 21 Ag. 1876. II, **7**, 417 (**17**, 369).
— into steel. **Harrington e Havill.** 10 O. 1872. II, **3**, 461 (**12**, 361).
— — **Long ed al.** 2 Je. 1868. I, **5**, 186 (**8**, 256), pl. 55.
— — **Martin.** 10 O. 1867. I, **4**, 329 (**7**, 469), pl. 103.
— — **Roche.** 20 D. 1869. I, **6**, 471 (**9**, 487), pl. 151.
— — **Schemmann.** 30 S. 1862. (**3**, 355)*—Ex. I, **1**, 298 (**5**, 234).
— — **Sicard de Saint-Simon.** 31 Mr. 1859. (**2**, 226.)* (*Sardinia.*)
— pig into wrought. **Blair.** 14 Ap. 1869. I, **6**, 137 (**9**, 153).
extracting from ore. **Girard.** 20 Ap. 1874. II, **5**, 174 (**14**, 283).
extracting from solution containing aluminum. **Semper e Fahlberg.** 27 Ja. 1882. II, **13**, 52 (**27**, 324).
ferric hydrate (Fe_2O_3,H_2O), and copper, bichloride ($CuCl_2$), simultaneous production. **Macay.** 13 Jl. 1880. II, **11**, 461 (**24**, 62).
ferrous sulphate manufacture. **Mundo.** 28 F. 1871. II, **2**, 54 (**10**, 476), pl. 8.
— **Signorile.** 21 S. 1872. II, **3**, 430 (**12**, 330), pl. 108.
— **Vetere.** 27 Ap. 1864. I, **1**, 166 (**5**, 102), pl. 18.
furnace. **Bower.** 24 S. 1881. II, **12**, 839 (**26**, 389), pl. 228.
— **Westermann fratelli.** 31 Mr. 1856. (**1**, 161.)* (*Sardinia.*)
— removing nitrogen from. **Klein e Vallée.** 22 Ja. 1867. I, **4**, 37 (**7**, 176), pl. 14.
girder, truss, &c., construction. **Manby.** 27 My. 1865. I, **2**, 154 (**6**, 138), pls. 42, 43.
gutter. **Royer, Houzelot e Ragon.** 16 D. 1878. II, **9**, 769 (**21**, 124), pl. 234.
magnetite ore treating. **Sella.** 30 S. 1855. (**1**, 98.)* (*Sardinia*)—Ex. I, **1**, 283 (**5**, 219).
manganese alloy manufacture. **Compagnie anonyme des fonderies et forges de Terre-Noire, La Voulte et Bességes.** 13 Je. 1874. II, **5**, 299 (**14**, 408), pl. 72.
— **Compagnie des fonderies et forges de Terre-Noire, La Voulte et Bességes.** 15 Jl. 1874. II, **5**, 345 (**14**, 454), pl. 80.
— **Compagnie des fonderies et forges et Terre-Noire, La Voulte et Bességes.** 17 Jl. 1874. II, **5**, 347 (**14**, 456).
manufacture. **Heaton.** 5 Je. 1869. I, **6**, 226 (**9**, 242), pl. 72.
— **Hinde.** 30 S. 1871. II, **2**, 333 (**11**, 255), pl. 70.
— **Kinnaird.** 2 Ag. 1867. I, **4**, 250 (**7**, 390), pl. 73.
— **Larkin, Leighton e White.** 22 Ja. 1872. II, **3**, 12 (**11**, 412), pl. 2.
— **Longoni e Comp.** 9 D. 1874. II, **5**, 595 (**15**, 204).
— **Lyttle.** 30 Mr. 1875. II, **6**, 144 (**15**, 412), pl. 38.
— **Muller et Cie.** 30 Je. 1863. (**4**, 45.)*
— **Nasaroff.** 29 Ap. 1868. I, **5**, 97 (**8**, 167).
— **Novello.** 30 S. 1863. (**4**, 106)*—Ex. I, **1**, 134 (**5**, 70).
— **Paillette.** 30 Je. 1857. (**1**, 448.)* (*Sardinia.*)
— **Paillette.** 30 Je. 1857. (**1**, 449.)* (*Sardinia.*)
— **Ponsard.** 31 Mr. 1868. I, **5**, 54 (**8**, 124), pl. 14—Ex. II, **5**, 137 (**14**, 246).
— **Richardson.** 2 Ag. 1867. I, **4**, 252 (**7**, 392), pl. 76.
— **Sherman.** 22 Jl. 1876. II, **7**, 366 (**17**, 318), pl. 90.
— **Siemens.** 12 F. 1873. II, **4**, 63 (**13**, 43), pl. 18—Ex. **10**, 72 (**21**, 272).

IRON manufacture—continued.
— **Società metallurgica per l'esercizio dei procedimenti Ponsard.** 20 Mr. 1872. II, **3**, 110 (**12**, 10), pl. 34. Ad. **3**, 222 (**12**, 120), pl. 61; **4**, 278 (**13**, 288), pl. 70.
— **Tourangin.** 31 D. 1861. (**3**, 173)*—Ex. I, **1**, 299 (**5**, 235).
— **Von Ehrenwerth e Prochaska.** 4 N. 1880. II, **11**, 784 (**24**, 385).
— **Webster.** 21 D. 1872. II, **3**, 557 (**12**, 457), pls. 133, 134.
— **Wilson.** 30 S. 1862. (**3**, 330.)*.
— **Wilson.** 31 D. 1863. (**4**, 124)*—Ex. I, **1**, 453 (**5**, 390).
— cast. **Bozza.** 6 My. 1867. I, **4**, 138 (**7**, 278).
— — **Cordier.** 9 N. 1878. II, **9**, 675 (**21**, 30).
— charcoal pig. **Honnay.** 10 D. 1877. II, **8**, 709 (**19**, 299).
— malleable cast. **Giussani ed al.** 24 N. 1868. I, **5**, 365 (**8**, 436).
— wrought. **Ellershausen.** 1 Je. 1868. I, **5**, 163 (**8**, 233), pl. 42.
— — direct. **Gussander.** 27 Ag. 1879. II, **10**, 564 (**22**, 264), pl. 159.
— — **Hargreaves.** 26 D. 1867. I, **4**, 406 (**8**, 49), pl. 125.
— — **Hargreaves.** 28 Ap. 1868. I, **5**, 87 (**8**, 157).
melting furnace. **Marvin.** 28 D. 1871. II, **2**, 461 (**11**, 383), pl. 95.
molding. **Biglino.** 21 Ap. 1876. II, **7**, 198 (**17**, 150), pl. 45.
— hollow. **Cambiaggio e Comp.** 19 Je. 1872. II, **3**, 263 (**12**, 163)—Ex. **6**, 363 (**16**, 131).
ore separating. **Larue.** 19 Ag. 1873. II, **4**, 395 (**13**, 375), pl. 103.
ore, titaniferous, pulverizing. **Brunet.** 9 O. 1865. I, **2**, 277 (**6**, 261), pl. 80.
ore, titaniferous, treatment. **Plimsoll.** 24 D. 1866. I, **3**, 307 (**7**, 133).
ore treating. **Ponsard.** 22 Je. 1870. II, **1**, 257 (**10**, 257), pl. 65—Ex. **7**, 304 (**17**, 256).
— **Rongeault e Alart.** 28 Ag. 1871. II, **2**, 288 (**11**, 210), pl. 59.
— **Siemens.** 6 Je. 1872. II, **3**, 226 (**12**, 126), pl. 63—Ex. **9**, 341 (**20**, 196).
— **Thomas.** 30 S. 1863. (**4**, 98.)*
purifying. **Tessié du Motay et Fontaine.** 31 D. 1856. (**1**, 304.)* (*Sardinia.*)
railway, manufacture. **Tardy e Beneck.** 28 D. 1870. II, **1**, 411 (**10**, 411), pl. 101.
refining. **Zenger.** 31 My. 1873. II, **3**, 223 (**12**, 123).
scrap converting into steel. **Compagnie des fonderies et forges de Terre-Noire, La Voulte et Bességes.** 15 Jl. 1874. II, **5**, 346 (**14**, 455).
scrap treating. **Armanet e la Società Frèrejean Roux e Comp.** 17 My. 1875. II, **6**, 246 (**16**, 14), pl. 49.
silicon alloy manufacture. **Compagnie anonyme des fonderies et forges de Terre-Noire, La Voulte et Bességes.** 23 Je. 1874. II, **5**, 299 (**14**, 408), pl. 72.
— **Compagnie des fonderies et forges de Terre-Noire, La Voulte et Bességes.** 15 Jl. 1874. II, **5**, 347 (**14**, 456).
stamping machine. **Henrion.** 22 F. 1876. II, **7**, 72 (**17**, 24), pl. 18.
surface protecting. **Barff.** 16 Ag. 1877. II, **8**, 472 (**19**, 62), pl. 122—Ex. **9**, 470 (**20**, 325).
tinning. **Belluomini.** 5 Je. 1877. II, **8**, 316 (**18**, 406).
titanium alloy manufacture. **Compagnie anony des fonderies et forges de Terre-Noire, La Voulte et Bességes.** 23 Je. 1874. II, **5**, 299 (**14**, 408), pl. 72.
— **Compagnie des fonderies et forges de Terre-Noire, La Voulte et Bességes.** 15 Jl. 1874. II, **5**, 347 (**14**, 456).
treating. **Bessemer.** 30 S. 1856. (**1**, 250.)* (*Sardinia*)—Ex. I, **1**, 136 (**5**, 72).
— **Novello.** 30 S. 1863. (**4**, 101)*—Ex. I, **1**, 135 (**5**, 71).
— and steel. **Muller de la Mothe.** 31 D. 1861. (**3**, 194.)*

IRON—continued.
tungsten alloy manufacture. **Compagnie anonyme des fonderies et forges de Terre-Noire, La Voulte et Bességes.** 23 Je. 1874. II, **5**, 299 (**14**, 408), pl. 72.
— **Compagnie des fonderies et forges de Terre-Noire, La Voulte et Bességes.** 15 Jl. 1874. II, **5**, 347 (**14**, 456).
twisting. **Fulconis.** 7 Jl. 1876. II, **7**, 321 (**17**, 273), pl. 47.
welding. **Haldeman.** 20 Ap. 1881. II, **12**, 340 (**25**, 390).
wheel manufacture. **Schwartzkopff.** 24 Mr. 1877. II, **8**, 138 (**18**. 228), pl. 37.
IRONING MACHINE. **Accasto.** 25 Ja. 1878. II, **9**, 26 (**19**, 381), pl. 8.
Boero e Comp. 26 Ap. 1877. II, **8**, 228 (**18**, 318)—Ex. **10**, 405 (**22**, 105).
Decoudun e Comp. 23 Mr. 1870. II, **1**, 115 (**10**, 115), pl. 28.
Morand. 15 O. 1875. II, **6**, 545 (**16**, 313), pl. 131. Ad. **9**, 133 (**19**, 488)—Ex. **11**, 678 (**24**, 279).
Spadetti. 27 My. 1879. II, **10**, 308 (**21**, 8), pl. 83.
collars and cuffs. **Gioia.** 15 My. 1879. II, **10**, 285 (**21**, 485), pl. 79.
IRRIGATING. **Gerson.** 7 Je. 1880. II, **11**, 354 (**23**, 430), pl. 100.
Muscella. 8 F. 1878. II, **9**, 48 (**19**, 403), pl. 12.
Robinet. 14 N. 1881. II, **12**, 1013 (**27**, 63), pl. 275.
apparatus. **Moro.** 11 D. 1871. II, **2**, 446 (**11**, 368), pl. 94—Ex. **4**. 20 (**12**, 500); **5**, 1 (**14**, 110).
— **Rossi.** 29 My. 1877. II, **8**, 301 (**18**, 391), pl. 82.
— **Trossarelli.** 22 My. 1866. I, **3**, 137 (**6**, 463), pl. 46.
— endless chain. **Roman.** 21 Mr. 1865. I, **2**, 82 (**6**, 66), pl. 19.
IVORY, artificial. **Cottrel e Greening.** 31 D. 1881. II, **12**, 1204 (**27**, 254).
button machine. **Loper.** 25 Jl. 1878. II, **9**, 475 (**20**, 330), pl. 142.
cutting machine. **Pavero e Comp.** 30 S. 1860. (**2**, 415.)* (*Sardinia.*)
painting and dyeing. **Batonnier.** 31 Mr. 1881. II, **12**, 269 (**25**, 319).
JACK. *See also* Hydraulic.
car. **Chaudoir.** 24 D. 1874. II, **5**, 620 (**15**, 229), pl. 148.
— **Heshuysen.** 19 Jl. 1875. II, **6**, 381 (**16**, 149), pl. 80—Ex. **7**, 83 (**17**, 35).
— **Rossi.** 20 F. 1878. II, **9**, 85 (**19**, 440), pl. 17—Ex. **10**, 255 (**21**, 455).
— **Sartori.** 6 Jl. 1880. II, **11**, 456 (**24**, 57), pl. 133.
screw. **Galaverna.** 18 Ap. 1882. II, **13**, 334 (**28**, 106), pl. 90.
JAR. *See also* Preserve.
Del Buono. 30 Je. 1879. II, **10**, 421 (**22**, 121), pl. 120.
stopper. **Viollet.** 18 Je. 1868. I, **5**, 213 (**8**, 283), pl. 57—Ex. **6**, 278 (**9**, 294).
JASPER SAND. **Troyse.** 30 Je. 1862. (**3**, 341.)*
JELLY. **Baj.** 21 Ja. 1882. II, **13**, 39 (**27**, 311).
JEWEL. **Huber.** 31 D. 1858. (**2**, 204.)* (*Sardinia.*)
JEWELRY. **Dressler.** 19 S. 1878. II, **9**, 569 (**20**, 424), pl. 175.
Lion. 18 Je. 1867. I, **4**, 200 (**7**, 340), pl. 65.
Lion. 30 N. 1878. II, **9**, 743 (**21**, 98), pl. 223. Ad. II, **10**, 482 (**22**, 182), pl. 133.
case. **Roman.** 20 F. 1874. II, **5**, 56 (**14**, 165), pl. 9.
cleaning compound. **Beretta.** 15 My. 1879. II, **10**, 325 (**22**, 25).
design. **Falize.** 10 Ap. 1879. II, **10**, 216 (**21**, 416), pl. 62.
manufacture, chain. **Béziel.** 2 Ag. 1865. I, **2**, 211 (**6**, 195), pl. 77.
mosaic. **Delle Belle.** 10 Ag. 1877. II, **8**, 454 (**19**, 44).
pin, glass. **Posi.** 21 Ag. 1853. 58.* (*Sardinia.*)
JOINERY. **Bardèche.** 31 Mr. 1857. (**1**, 377.)* (*Sardinia.*)
machine. **Castagnino.** 27 Je. 1872. II, **3**, 282 (**12**, 182), pl. 75.
JOINT. *See also* Paper machine felt, Pipe, Preserve-can, Railway rail, Sheet-metal, Sheet-metal vessel, Steam-boiler tube, Tin vessel, Umbrella brace.
flush. **Farjon.** 30 D. 1860. (**2**, 475.)* (*Sardinia.*)

JOURNAL-BEARING. **Borgatta.** 29 Jl. 1871. II, **2**, 238 (**11**, 160), pl. 53—Ex. **3**, 478 (**12**, 378); **4**, 522 (**14**, 2).
Borgatta. 19 Ag. 1871. II, **2**, 270 (**11**, 192), pl. 58—Ex. **3**, 477 (**12**, 377). Ad. **4**, 275 (**13**, 255), pl. 71—Ex. **4**, 526 (**14**, 6).
Borgatta. 17 Ja. 1874. II, **5**, 16 (**14**, 125), pl. 2—Ex. **6**, 189 (**15**, 457); **7**, 188 (**17**, 140); **8**, 444 (**19**, 34); **9**, 247 (**20**, 102); **10**, 346 (**22**, 46).
Brewer. 27 D. 1881. II, **12**, 1165 (**27**, 215), pl. 326.
Fava. 6 D. 1879. II, **10**, 805 (**23**, 5), pl. 227.
Lacoste. 30 N. 1880. II, **11**, 845 (**24**, 446), pl. 245.
Marca. 9 Ag. 1879. II, **10**, 536 (**22**, 236), pl. 163.
Rueff. 28 Je. 1872. II, **3**, 288 (**12**, 188), pl. 75.
Stigler. 20 O. 1877. II, **8**, 605 (**19**, 195), pl. 150.
Wendell e Tasker. 14 My. 1870. II, **1**, 200 (**10**, 200), pl. 49.
and churn combined. **Barbaglia.** 29 Ap. 1868. I, **5**, 92 (**8**, 162). pl. 17.
lubricator. **Wendell.** 13 Mr. 1868. I, **5**, 22 (**8**, 92), pl. 6.
JUTE brake. **d'Andrea.** 24 My. 1876. II, **7**, 263 (**17**, 215).
— **Wamain.** 31 Ja. 1873. II, **4**, 44 (**13**, 24), pl. 10. Ad. **4**, 486 (**13**, 466), pl. 136.
KEEL. **Somzée.** 27 S. 1878. II, **9**, 585 (**20**, 440), pls. 181, 182.
KEY. *See also* Railway.
ring. **Sangiorgi.** 29 Ag. 1876. II, **7**, 419 (**17**, 371), pl. 105.
KILN. *See* Brick, Calcining, Cement, Coke, Glass, Lime, Plaster, Pottery, Tile.
KINDLING-BLOCK, hollow. **Brevet.** 1 O. 1864. I, **1**, 452 (**5**, 389), pl. 52.
KNAPSACK. **Biso e Rodoni.** 31 Jl. 1873. II, **4**, 369 (**13**, 349), pl. 98.
Bossoli e Duroni. 18 Je. 1879. II, **10**, 377 (**22**, 77), pl. 102.
Hirsch. 31 D. 1878. II, **9**, 821 (**21**, 176), pl. 241.
Podestà. 30 Mr. 1875. II, **6**, 150 (**15**, 419), pl. 30.
Saitta. 28 Mr. 1870. II, **1**, 124 (**10**, 124), pl. 30. Ad. **2**, 18 (**10**, 440), pl. 2.
Waldis. 1 Je. 1868. I, **5**, 178 (**8**, 248), pl. 54.
Waldis. 24 D. 1878. II, **9**, 785 (**21**, 140), pl. 237.
Waldis. 31 D. 1879. II, **10**, 898 (**23**, 98), pl. 253.
KNIFE. *See also* Rag-engine.
Guex. 25 Mr. 1878. II, **9**, 160 (**20**, 15), pl. 41.
cleaner. **Duchesne.** 19 Je. 1878. II, **9**, 391 (**20**, 246), pl. 110.
handle. **Barberis.** 31 D. 1873. II, **4**, 626 (**14**, 106).
manufacture. **Gurlino e Comp. e Lancina.** 31 Mr. 1881. II, **12**, 274 (**25**, 324), pl. 66.
KNIT fabric, imitation cloth. **Tensi fratelli.** 25 O. 1871. II, **2**, 375 (**11**, 297).
fabric, sewing. **Borton e Willcox.** 31 Mr. 1882. II, **13**, 271 (**28**, 43), pls. 70, 71.
KNITTING-MACHINE. **Angst.** 11 Je. 1874. II, **5**, 266 (**14**, 375), pl. 63.
Armstrong. 12 Mr. 1870. II, **1**, 86 (**10**, 86), pl. 18.
Berthelot père et fils. 23 Jl. 1881. II, **12**, 663 (**26**, 213). pl. 156.
Bickford. 23 Je. 1874. II, **5**, 287 (**14**, 396), pl. 70.
Biernatzki. 18 Ap. 1879. II, **10**, 230 (**21**, 430), pl. 67.
Bradley. 3 Ag. 1881. II, **12**, 717 (**26**, 267), pls. 184–186.
Brocard. 30 S. 1857. (**1**, 324.)* Ad. (**1**, 16). (*Sardinia.*)
Cambiaso. 30 S. 1858. (**3**, 153.)* (*Sardinia.*)
Cambiaso. 22 Mr. 1881. II, **12**, 211 (**25**, 261), pl. 51.
Campion. 30 Jl. 1881. II, **12**, 710 (**26**, 260), pl. 181.
Gamble et Ellis. 30 S. 1861. (**3**, 136.)*
Gommeret. 20 Ag. 1880. II, **11**, 578 (**24**, 179), pls. 163, 164.
Harding. 30 Jl. 1870. II, **1**, 315 (**10**, 315), pl. 79.
McNary. 30 Jl. 1878. II, **9**, 480 (**20**, 335), pls. 145, 146.
McNary. 26 N. 1880. II, **11**, 832 (**24**, 433), pls. 239–243.
Mollière. 28 Mr. 1875. II, **6**, 122 (**15**, 390), pl. 24. Ad. **8**, 80 (**18**, 170), pl. 22.
Nelson. 11 Je. 1879. II, **10**, 348 (**22**, 48), pls. 99–102.
Neveux. 30 Ap. 1875. II, **6**, 208 (**15**, 476), pl. 45.
Puech. 30 S. 1858. (**2**, 142.)* (*Sardinia.*)
Schmitt. 19 Jl. 1875. II, **6**, 387 (**16**, 155), pls. 86, 87.
Schmitt. 28 F. 1880. II, **11**, 112 (**23**, 213), pls. 40–42—Ex. **12**, 104 (**25**, 154); **13**, 322 (**28**, 94).
Tailbouis e Renevey. 28 Je. 1872. II, **3**, 289 (**12**, 189), pl. 76.
Wilson. 30 Je. 1861. (**3**, 86.)*

KNOB. **Pellizzuni.** 14 O. 1879. II, **10**, 681 (**22**, 381), pl. 183.
Galbiati. 30 Je. 1862. (**3**, 261.)*
LACE embroidery. **Steiger e Comp.** 4 N. 1880. II, **11**, 779 (**24**, 380).
folding machine. **Cartier-Bresson.** 31 D. 1879. II, **10**, 885 (**23**, 85), pl. 246.
machine. **Büsche.** 5 N. 1879. II, **10**, 720 (**22**, 420), pls. 196, 197. Ad. **10**, 802 (**23**, 2), pl. 227.
— **Cheignet.** 31 Mr. 1864. (**4**, 199.)*
— **Compagnie dentellière de France.** 25 O. 1876. II, **7**, 513 (**17**, 466), pl. 130.
— **de Koepff** 17 Jl. 1868. I, **5**, 238 (**8**, 308), pl. 75.
— **Malhère.** 12 Jl. 1873. II, **4**, 344 (**13**, 324), pl. 93.
manufacture. **André.** 28 N. 1868. I, **5**, 385 (**8**. 456).
— thread-guide. **Jamnig.** 14 D. 1881. II, **12**, 1096 (**27**, 146), pl. 296.
LACING, shoe and corset. **Ducher.** 31 Mr. 1880. II, **11**, 189 (**23**, 290), pl. 57.
staple. **Varlot.** 13 Jl. 1880. II, **11**, 491 (**24**, 92), pl. 137.
LADDER. **Bozzoni.** 15 Mr. 1878. II, **9**, 112 (**19**, 467), pl. 31.
Rivara. 21 Mr. 1874. II, **5**. 120 (**14**, 229), pl. 25.
ascending mountains. **Bianchi.** 15 Je. 1880. II, **11**, 381 (**23**, 482), pl. 106.
bridge. **Porta.** 30 Je. 1861. (**3**, 44.)*
extension. **Frattini.** 29 My. 1877. II, **8**, 307 (**18**, 397), pls. 82, 83. Ad. **9**, 254 (**20**, 109), pls. 66, 67—Ex. **9**, 336 (**20**, 191).
— **Mariani.** 18 S. 1877. II, **8**, 534 (**19**, 124), pl. 135. Ad. **8**, 613 (**19**, 203), pl. 142.
— **Porta.** 28 Ap. 1873. II, **4**, 205 (**13**, 185), pl. 55.
— **Porta.** 28 Ap. 1873. II, **4**, 206 (**13**, 186), pl. 56.
— **Porta.** 28 Ap. 1873. II, **4**, 207 (**13**, 187), pl. 56.
— **Porta.** 25 Mr. 1876. II, **7**, 142 (**17**, 94), pl. 32.
— **Porta.** 29 N. 1879. II, **10**, 796 (**22**, 496), pl. 220.
— **Regis.** 30 D. 1864. I, **1**, 545 (**5**, 482), pl. 93.
— **Rivara.** 28 My. 1881. II, **12**, 442 (**25**, 492), pl. 112.
— **Rocco.** 17 N. 1881. II, **12**, 1020 (**27**, 70), pl. 280.
— **Squarza.** 15 O. 1874. II. **5**, 485 (**15**, 94), pl. 114.
— **Vanni.** 31 D. 1877. II, **8**, 765 (**19**, 355), pl. 204.
— **Vegezzi e Laviosa.** 27 S. 1878. II, **9**, 588 (**20**, 443), pls. 183, 184.
fire-escape. **Regis.** 3 Jl. 1865. I, **2**, 190 (**6**, 174), pl. 57.
fireman's. **Porta.** 17 Jl. 1868. I, **5**, 239 (**8**, 309), pl. 78.
LAMP. **Aronson.** 14 Ag. 1874. II, **5**, 393 (**15**, 2), pl. 89.
Battimelli. 18 Mr. 1879. II, **10**, 138 (**21**, 338), pl. 41.
Bernardi. 31 My. 1873. II, **4**, 253 (**13**, 233), pl. 68.
Canet. 30 S. 1859. (**2**, 263.)* (*Sardinia.*)
Egidi. 17 Mr. 1881. II, **12**, 202 (**25**, 252), pl. 43.
Gado. 7 My. 1875. II, **6**, 224 (**15**, 492), pl. 46.
Haedicke. 15 Mr. 1878. II, **9**, 139 (**19**, 494), pl. 35.
de Kéravenan. 30 Je. 1863. (**3**, 495)*—Ex. I, **1**, 121 (**5**, 57).
de Kéravenan. 14 Ap. 1864 I, **1**, 127 (**5**, 63), pl. 13.
Köhler. 20 O. 1880. II, **11**, 728 (**24**, 329), pl. 210.
Laneri. 30 Je. 1857. (**1**, 406.)* (*Sardinia.*)
Lobatti e Paganini. 31 Mr. 1857. (**1**, 352.)* (*Sardinia.*)
Morel et Guillemont. 30 Je. 1860. (**2**, 376.)* (*Sardinia.*)
Ottina. 23 Mr. 1869. I, **6**, 119 (**9**, 135), pl. 37.
Pintsch et Cie. 21 Ap. 1882. II, **13**, 341 (**28**, 113), pl. 92.
Raupp. 23 N. 1881. II, **12**, 1026 (**27**, 76), pl. 280.
Silber. 3 F. 1875. II, **6**, 52 (**15**, 320), pl. 12.
Skelton. 20 N. 1871. II, **2**, 410 (**11**, 332), pl. 88.
Tremeschini. 12 Je. 1864. I, **1**, 304 (**5**, 240), pl. 31. Ad. **1**, 527 (**5**, 464), pl. 80.
alcohol. **Fenoglio.** 30 Ap. 1880. II, **11**, 278 (**23**, 379), pl. 79.
and lantern. **Ménand.** 28 O. 1865. I, **2**, 293 (**6**, 277), pl. 85.
attachments. **Pulvermacher.** 30 D. 1878. II, **9**, 808 (**21**, 163), pl. 239.
benzine. **Bianchi.** 7 Mr. 1881. II, **12**, 164 (**25**, 214), pl. 41.
car. **Battimelli.** 7 N. 1874. II, **5**, 537 (**15**, 146), pl. 125.
chimney. **Cateau.** 30 S. 1862. (**2**, 362.)*
— **Lallemand.** 4 N. 1865. I, **2**, 304 (**6**, 288), pl. 85.
— **Perrin.** 16 N. 1878. II, **9**, 709 (**21**, 64), pl. 214.
— hygienic blue. **Calderini.** 24 Ja. 1870. II, **1**, 21 (**10**, 21)—Ex. **1**, 418 (**10**, 418).
— support. **Anrès.** 30 S. 1880. II, **11**, 673 (**24**, 274), pl. 194.
— — **Breeden.** 25 Mr. 1879. II, **10**, 157 (**21**, 357), pl. 48.

LAMP—continued.
chimneyless. **Boehm fratelli.** 16 O. 1878. II, **9**, 613 (**20**, 468), pl. 192—Ex. **10**, 652 (**22**, 352); **11**, 751 (**24**, 352); **12**, 904 (**26**, 454).
coal oil. **Boschan ed al.** 31 Mr. 1865. I, **2**, 104 (**6**, 88), pl. 25.
fountain. **Cerubi.** 30 Je. 1858. (**2**, 113.)* (*Sardinia.*)
gas. **Grattoni e Marini.** 14 O. 1879. II, **10**, 658 (**22**, 358), pl. 181. Ad. **11**, 182 (**23**, 283), pl. 54.
gazogene. **Pastore.** 31 Ag. 1881. II, **12**, 782 (**26**, 332), pl. 204.
globe. **Lazzarini e Comp.** 14 Jl. 1877. II, **8**, 392 (**18**, 482), pl. 104.
— **Michel.** 19 Je. 1878. II, **9**, 392 (**20**, 247), pl. 110.
heavy mineral oil. **Schwarz e Huppertsberg.** 30 S. 1881. II, **12**, 881 (**26**, 431), pl. 227.
hydrocarbon. **Campari.** 27 D. 1881. II, **12**, 1174 (**27**, 224), pl. 329.
— **Martin.** 30 Je. 1863. (**4**, 13.)*
— **Merryweather e Mayrargues.** 22 N. 1880. II, **11**, 826 (**24**, 427), pl. 238.
— **Monari, Sardé, Vinci e Baldi.** 13 Ap. 1881. II, **12**, 320 (**25**, 370), pl. 75. Ad. **12**, 1196 (**27**, 246), pls. 335, 336.
inexplosive. **Hendrix.** 25 Ap. 1874. II, **5**, 189 (**14**, 298), pl. 39.
lighter. **Chandor.** 4 Ag. 1874. II, **5**, 365 (**14**, 474), pl. 84.
— **Oggioni.** 20 My. 1871. II, **2**, 138 (**11**, 60), pl. 27.
— percussion. **Hinks et Hinks.** 21 D. 1880. II, **11**, 862 (**24**, 463), pl. 251.
lighthouse. **Canet.** 30 Je. 1859. (**2**, 246.)* (*Sardinia.*)
— **Chiarolanza.** 22 Jl. 1876. II, **7**, 360 (**17**, 312), pl. 90. Ad. **7**, 443 (**17**, 395), pl. 110; **8**, 162 (**18**, 252), pl. 47—Ex. **10**, 717 (**22**, 417).
ligroin. **Bellota.** 25 S. 1880. II, **11**, 650 (**24**, 251), pl. 189.
marine. **Pintsch.** 15 N. 1877. II, **8**, 664 (**19**, 254), pl. 175. Ad. **12**, 55 (**26**, 101).
oil. **Chercot.** 22 Ja. 1867. I, **4**, 32 (**7**, 171).
— **Giordano.** 24 F. 1880. II, **11**, 98 (**23**, 199), pl. 34.
— **Lafaurie e Potel.** 14 Ag. 1874. II, **5**, 405 (**15**, 14), pl. 94.
— and spirit. **Holmes.** 31 Ag. 1868. I, **5**, 309 (**8**, 379), pl. 96.
petroleum. **Battimelli.** 26 O. 1869. I, **6**, 394 (**9**, 410), pl. 131. Ad. II, **1**, 55 (**10**, 55), pl. 9.
— **Béchambés.** 4 Ag. 1874. II, **5**, 372 (**14**, 481), pl. 87.
— **Giordano fratelli.** 11 My. 1872. II, **3**, 196 (**12**, 96), pl. 51.
— **Lucchesini.** 14 My. 1873. II, **4**, 226 (**13**, 206), pl. 61.
— **Magnin.** 20 D. 1866. I, **3**, 296 (**7**, 122), pl. 83.
— **Pieroni.** 24 D. 1866. I, **3**, 302 (**7**, 128), pl. 78.
— **Schultz e Wolff.** 20 S. 1880. II, **11**, 638 (**24**, 239), pl. 185. Ad. **12**, 1201 (**27**, 251), pl. 337.
— car. **Battimelli.** 28 S. 1880. II, **11**, 662 (**24**, 263), pl. 191.
safety. **Pollavini ed al.** 2 Je. 1866. I, **5**, 193 (**8**, 263), pl. 57—Ex. **6**, 273 (**9**, 289).
sewing-machine. **Desprin.** 31 Ag. 1881. II, **12**, 809 (**26**, 359), pls. 212, 213.
signal. **Pintsch e Cie.** 21 Ap. 1882. II, **13**, 342 (**28**, 14), pl. 89.
smoke-consuming. **Andry.** 31 D. 1855. (**1**, 99.)* (*Sardinia.*)
spirit. **Gualazzi.** 28 Mr. 1879. II, **10**, 180 (**21**, 380), pl. 56.
street. **Guillemont.** 31 D. 1858. (**2**, 168.)* (*Sardinia.*)
— **Pochet.** 29 Ap. 1868. I, **5**, 96 (**8**, 166), pl. 18; II, **2**, 79 (**11**, 1).
— regulating. **Danemary de la Marquizière.** 30 S. 1861. (**3**, 132.)*
time. **Canet.** 30 S. 1857. (**1**, 426.)* (*Sardinia.*)
wick holder, **Koesewitz.** 12 My. 1879. II, **10**, 270 (**21**, 470), pl. 76.
LAMPBLACK. **Betti ed al.** 8 Je. 1867. I, **4**, 172 (**7**. 312).
substitute. **Lundgren.** 16 Ap. 1864. I, **1**, 138 (**5**, 74), pl. 14.
LAND breaking machine. **Minetti.** 31 D. 1855. (**1**, 115.)* (*Sardinia.*)
reclaiming. **Howell.** 31 Ja. 1882. II, **13**, 85 (**27**, 357), pl. 27.

LANTERN. **Fiorini.** 15 N. 1867. I, **4**, 371 (**8**, 12), pl. 113.
Zocchi. 9 Mr. 1876. II, 7, 96 (**17**, 48), pl. 24.
carriage. **Morel.** 8 Je. 1881. II, **12**, 520 (**26**, 70), pl. 128.
fire-arm **Merolla fratelli.** 22 S. 1870. II, **1**, 355 (**10**, 355), pl. 92.
gas. **Faccio.** 26 Jl. 1879. II, **10**, 504 (**22**, 204), pl. 143.
railway signal. **Rieumes.** 25 S. 1871. II, **2**, 317 (**11**, 239), pl. 66.
LAST. **Colivicchi.** 26 O. 1880. II, **11**, 755 (**24**, 356), pl. 217.
Drovandi. 20 Je. 1881. II, **12**, 534 (**26**, 84), pl. 132.
and hat mold machine. **Stokes.** 30 Je. 1860. (**2**, 459.)* (*Sardinia.*)
LATHE. **Bello.** 24 D. 1880. II, **11**, 891 (**24**, 492), pl. 256.
attachment, angular objects. **Zirngiebel.** 20 Mr. 1880. II, **11**, 167 (**23**, 268), pl. 52.
button. **Robert fils et Vernet.** 27 N. 1877. II, **8**, 682 (**19**, 272), pl. 180.
— **Kretschmann.** 4 Je. 1881. II, **12**, 502 (**26**, 52), pls. 125-127.
metal turning. **Binda.** 20 D. 1866. I, **3**, 294 (**7**, 120), pl. 82.
multiplying attachment. **Guglielminetti.** 13 Mr. 1868. I, **5**, 38 (**8**, 108), pl. 12.
tool making. **Schiess et Falk.** 15 Je. 1878. II, **9**, 366 (**20**, 221), pl. 104.
LATITUDE instrument. **Torelli.** 22 Jl. 1876. II, **7**, 371 (**17**, 323), pl. 92. Ad. **9**, 775 (**21**, 130), pl. 233.
LAUNCHING ships, apparatus for. **Brown ed al.** 27 Ap. 1869. I, **6**, 158 (**9**, 174), pl. 43.
LAWN-MOWER. **Aaron.** 31 Jl. 1869. I, **6**, 306 (**9**, 322), pl. 104.
Adie. 24 D. 1880. II, **11**, 898 (**24**, 499), pl. 255.
LEACH culture. **Pradelli.** 31 D. 1862. (**3**, 327.)*
LEAD, argentiferous, concentrating. **Dumont.** 17 Je. 1870. II, **1**, 250 (**10**, 250), pl. 63.
carbonate manufacture. **Carlevaris.** 30 D. 1856. (**1**, 282.)* (*Sardinia.*)
— **Migliaccio.** 18 O. 1878. II, **9**, 639 (**20**, 495).
— **Moreno.** 30 Jl. 1878. II, **9**, 482 (**20**, 337), pl. 149.
— **Niccolai e Guerri.** 13 Ap. 1881. II, **12**, 318 (**25**, 368).
— **Oreti.** 6 O. 1864. Ad. to (**5**, 8); I, **1**, 466 (**5**, 403).
— **Tortarolo.** 31 D. 1859. (**2**, 318.) Ad. (**1**, 30).* (*Sardinia.*)
compounds, treating for pigments. **French.** 14 D. 1881. II, **12**, 1100 (**27**, 150), pl. 298.
desilvering. **Luce fils et Rozan.** 25 N. 1869. I, **6**, 443 (**9**, 459), pl. 143. Ad. **5**, 279 (**14**, 388), pl. 64.
— **Luce fils et Rozan.** 17 N. 1875. II, **6**, 584 (**16**, 352), pl. 142.
— **Massonis e Musanti.** 30 S. 1861. (**3**, 100.)*
— **Roswag e de Pauville.** 11 Mr. 1872. II, **3**, 74 (**11**, 474), pl. 21.
extracting. **Cordurié.** 21 Ja. 1867. I, **4**, 12 (**7**, 151).
— **Drouin, Dufoure et Devins.** 14 Mr. 1882. II, **13**, 192 (**27**, 464).
— **Macay.** 22 Jl. 1880. II, **11**, 502 (**24**, 103).
— **Maxwell-Lyte.** 28 Jl. 1877. II, **8**, 439 (**19**, 29).
— **Maxwell-Lyte.** 26 Jl. 1879. II, **10**, 505 (**22**, 205), pl. 142.
— **Romley.** 23 Ap. 1880. II, **11**, 246 (**23**, 347), pls. 72, 73.
— **Rössler.** 29 Mr. 1882. II, **12**, 254 (**28**, 26), pl. 68.
— from mixed ores. **Maxwell-Lyte.** 20 Ag. 1877. II, **8**, 494 (**19**, 84).
form and press tongs. **Gibellini.** 7 My. 1856. (**1**, 209).* (*Sardinia.*)
ore treating. **Maxwell-Lyte.** 30 S. 1880. II, **11**, 677 (**24**, 278), pl. 198. Ad. **11**, 850 (**24**, 451); **12**, 1065 (**27**, 115).
oxides and salts. **Carenzi.** 31 D. 1858. (**2**, 162.)* (*Sardinia.*)
pipe tioning. **Chiazzari de Torres.** 24 S. 1875. II, **6**, 517 (**16**, 205), pl. 127.
— **Hamon.** 31 D. 1877. I, **4**, 420 (**8**, 61), pl. 124—Ex. II, **2**, 231 (**11**, 153); **4**, 595 (**14**, 75).
pipe tinned, manufacture, hydraulic press. **Luswergh.** 13 S. 1881. II, **12**, 821 (**26**, 371), pl. 218.
protoxide manufacture. **Tortarolo.** (**1**, 489.)* (*Sardinia.*)
LEAD—continued.
purifying. **Calandri.** 30 S. 1875. II, **6**, 520 (**16**, 288).
red manufacture. **Vetere.** 27 Ap. 1864. I, **1**, 166 (**5**, 102), pl. 18.
separating electric. **Parodi e Mascazzini.** 20 Mr. 1880. II, **11**, 161 (**23**, 262).
salts, preserving by. **Rogé, Poret, Raffoy e Dupré.** 9 N. 1876. II, **7**, 536 (**17**, 489).
white manufacture. **Brumleu e Dehm.** 26 Jl. 1879. II, **10**, 492 (**22**, 192), pl. 138—Ex. **11**, 691 (**24**, 292).
— **Fell.** 15 N. 1866. I, **3**, 244 (**7**, 70).
— **Gabba.** 6 D. 1876. II, **7**, 5 1 (**18**, 34).
— **Ozeuf.** 31 D. 1861. (**2**, 487.)*
LEATHER, artificial. **Clerici.** 24 Mr. 1877. II, **8**, 140 (**18**, 230), pl. 38.
— **Fischer e la Società Cohn et Wollheim.** 31 D. 1880. II, **11**, 934 (**25**, 35), pl. 264.
— **Fumagalli.** 21 Mr. 1874. II, **5**, 119 (**14**, 228).
— **Ghigo.** 29 N. 1875. II, **6**, 607 (**16**, 375).
— waterproof. **Pollak.** 21 D. 1881. II, **12**, 1136 (**27**, 186).
beating and rolling machine. **Coste.** 24 S. 1864. I, **1**, 435 (**5**, 372), pl. 46.
calendering machine. **Huxham.** 15 Jl. 1881. II, **12**, 612 (**26**, 162), pl. 149.
cleaning machine. **Cremonesi.** 8 Ag. 1876. II, **7**, 382 (**17**, 334), pl. 97.
cutting machine. **Rognoni e Pirovano.** 21 Mr. 1877. II, **8**, 132 (**18**, 222), pl. 7.
dressing. **Clozel.** 24 N. 1868. I, **5**, 368 (**8**, 439).
— **Fernbach.** 6 Je. 1881. II, **12**, 514 (**26**, 64).
— **Ionnoni.** 13 Ap. 1864. I, **1**, 106 (**5**, 42).
— for textile cards. **Uhlhorn.** 23 Ag. 1878. II, **9**, 525 (**20**, 380)—Ex. **10**, 659 (**22**, 359); **11**, 905 (**52**, 6).
graining machine. **Pathier.** 31 My. 1872. II, **3**, 217 (**12**, 117), pl. 59.
imitating horn. **Sichling.** 30 Je. 1861. (**3**, 25.)*
improving. **Favier.** 31 Mr. 1859. (**2**, 214.)* (*Sardinia.*)
joining. **Dezaux.** 31 Mr. 1860. (**2**, 333.)* (*Sardinia.*)
manufacture. **Delettre.** 22 F. 1867. I, **4**, 74 (**7**, 213).
— **Heintzerling.** 18 Ap. 1879. II, **10**, 233 (**21**, 433)—Ex. **11**, 343 (**23**, 444).
— **Rawle e Evans.** 28 Ap. 1873. II, **4**, 203 (**13**, 183).
pressing and lustering. **Traverso e Dellapiane fratelli.** 31 Mr. 1858. (**2**, 60.)* (*Sardinia.*)
refuse utilizing. **Rosso e Gribaldi.** 10 N. 1873. II, **4**, 549 (**14**, 29).
stretching vise. **Bruno.** 17 N. 1881. II, **12**, 1017 (**27**, 67), pl. 277.
substitute. **Lippold.** 21 D. 1880. II, **11**, 876 (**24**, 477), pl. 253.
treating. **de Sainte-Marie.** 28 N. 1872. II, **3**, 514 (**12**, 412).
— **Sourzac.** 6 F. 1866. I, **3**, 22 (**6**, 348).
washing machine. **Mayol.** 23 Mr. 1870. II, **1**, 106 (**10**, 106), pl. 22.
LEG, artificial. **Cendoli.** 1 Je. 1868. I, **5**, 169 (**8**, 239), pl. 49.
LEMON essence machine. **Pacino.** 24 F. 1881. II, **12**, 118 (**25**, 168), pl. 29. Ad. **12**, 1124 (**27**, 174), pl. 314.
juice, concentrating. **Giachery e Comp.** 9 Ap. 1877. II, **8**, 174 (**18**, 264).
rind extract. **Sturge e Hollings.** 14 Ja. 1874. II, **5**, 6 (**14**, 115), pl. 1.
LETTER-BOX. **Bollati e Comp.** 28 Ap. 1874. II, **5**, 192 (**14**, 301), pl. 42.
Pansoya. 31 D. 1856. (**1**, 292.)* (*Sardinia.*)
LEVEL. **Castagnino.** 3 S. 1874. II, **5**, 427 (**15**, 36), pl. 101—Ex. **6**, 457 (**16**, 225); **8**, 685 (**19**, 275).
Chairgrasse. 31 D. 1863. (**4**, 103.)*
Chairgrasse. 9 My. 1864. I, **1**, 202 (**5**, 138), pl. 19.
Fattori. 25 O. 1881. II, **12**, 949 (**26**, 499), pl. 254.
LEVER. **Borgatta.** 30 Je. 1863. (**3**, 490)*—Ex. I, **1**, 111 (**5**, 47).
Borgatta. 30 Je. 1863. (**3**, 491.)* Ad. (**1**, 141)—Ex. I, **1**, 112 (**5**, 48).
Ollearo. 12 Ap. 1870. II, **1**, 157 (**10**, 157), pl. 37.
application. **Villanio.** 31 D. 1859. (**2**, 297.)* Ad. (, 59) (, 60) (, 66). (*Sardinia*).
motor. **Salomone.** 30 S. 1863. (**4**, 115.)*
power applying. **Poggi.** 8 Je. 1865. I, **2**, 157 (**6**, 141), pl. 43.
— **Rossi ed al.** 9 Ap. 1867. I, **4**, 105 (**7**, 245), pl. 35.

LID. *See* Chamberpot.
LIFE boat. **Astegiano.** 20 D. 1879. II, **10**, 843 (**23**, 43), pl. 237.
— **Cona.** 15 Mr. 1877. II, **8**, 109 (**18**, 199), pl. 28.
— **Franchini.** 7 My. 1868. I, **5**, 124 (**8**, 194)—Ex. **6**, 221 (**9**, 237).
— **Oriolle.** 13 Jl. 1880. II, **11**, 475 (**24**, 76).
— **Russo ed al.** 23 Jl. 1867. I, **4**, 245 (**7**, 385), pl. 76. Ad. **5**, 199 (**8**, 269), pl. 62.
— **White.** 7 O. 1865. I, **2**, 259 (**6**, 243), pl. 74.
preserver. **d'Alessandro.** 26 Ag. 1875. II, **6**, 444 (**16**, 212), pl. 103—Ex. **7**, 473 (**17**, 425).
— **Bertoldi.** 30 S. 1855. (**1**, 67.)* (*Sardinia.*)
— **Chaffaud e Barbotin.** 16 N. 1878. II, **9**, 695 (**21**, 50), pl. 213.
— **Dupuy.** 29 Jl. 1872. II, **3**, 342 (**12**, 242), pl. 87.
— **Léchaudée.** 28 F. 1874. II, **5**, 70 (**14**, 179), pl. 14.
— **Lopez de Gonzalo e Grisei.** 5 Je. 1871. II, **2**, 159 (**11**, 81), pl. 35—Ex. **3**, 332 (**12**, 232); **4**, 346 (**13**, 326).
— **Martorelli e Soliani.** 18 O. 1878. II, **9**, 626 (**20**, 481), pl. 194.
— **Piatti fratelli.** 19 My. 1881. II, **12**, 425 (**25**, 475), pl. 101.
— **Ricard.** 31 Mr. 1864. (**4**, 194.)*
— **Taddei.** 18 N. 1879. II, **10**, 766 (**22**, 466), pl. 207.
— **Torrilhon, Verdier et Cie.** 31 D. 1863. (**4**, 134)*—Ex. I, **1**, 258 (**5**, 194).
— horse. **de Zubovitz.** 9 Ap. 1877. II, **8**, 175 (**18**, 265). pl. 48.
— ma tress. **Lopez di Gonzalo e Grisei.** 7 F. 1876. II, **7**, 58 (**17**, 10), pl. 15—Ex. **8**, 176 (**18**, 266); **9**, 233 (**20**, 88); **10**, 196 (**21**, 396); **11**, 117 (**23**, 218); **12**, 265 (**25**, 315); **13**. 216 (**27**, 488).
— traveling bag. **d'Alessandro.** 31 Ag. 1876. II, **7**, 431 (**17**, 383), pl. 108.
saving apparatus. **Pollavini.** 31 My. 1864. I, **1**, 270 (**5**, 206), pl. 21.
— **Rosselet, Poth er et Pothier.** 31 Mr. 1864. (**4**, 183.)*
— **Roth.** 9 N. 1881. II, **12**, 988 (**27**, 38), pl. 266.
— **Roturier.** 8 Je. 1875. II, **6**, 290 (**16**, 58), pl. 64.
— **Sharp e Smith.** 26 Ap. 1877. II, **8**, 223 (**18**, 313), pl. 63.
saving belt. **Tovo.** 19 D. 1868. I, **5**, 405 (**8**, 476), pl. 117.
LIGHT, monochromatic. **Neuschüler.** 22 Jl. 1880. II, **11**, 501 (**24**, 102).
oxyhydrogen. **Miccio.** 20 My. 1871. II, **2**, 129 (**11**, 51), pl. 31.
LIGHTER. *See also* Cigar.
Köhler. 20 O. 1880. II, **11**, 728 (**24**, 329), pl. 210.
Remus. 22 N. 1880. II, **11**, 827 (**24**, 428), pl. 236.
LIGHTING. *See also* Car.
Godard. 30 Ap. 1877. II, **8**, 243 (**18**, 333), pl. 65.
Lucas. 31 D. 1862. (**3**, 375.)*
Mottura 29 Ap. 1882. II, **13**, 384 (**28**, 156).
Silber. 20 Mr. 1872. II, **3**, 104 (**12**, 4), pl. 29—Ex. **6**, 120 (**15**, 308).
and heating. **Trasksel e Clarton.** 31 D. 1863. (**4**, 119.)*
— "gaz platine" (=hydrogen gas and platinum sponge?). **Boullian.** 31 D. 1857. (**2**, 26.)* (*Sardinia.*)
apparatus. **Chalus.** 26 O. 1864. I, **1**, 482 (**5**, 419), pl. 77.
— **Colomb.** 31 Mr. 1868. I, **5**, 67 (**8**, 137), pl. 16.
— **Mille.** 26 Jl. 1864. I, **1**, 386 (**5**, 323), pl. 39.
— gas. **Sandeman e Willis.** 31 Mr. 1880. II, **11**, 206 (**23**, 307), pl. 61.
— hydrocarbon. **Rossi.** 15 F. 1880. II, **11**, 76 (**23**, 177), pl. 28.
by oils. **Silber e White.** 24 Ap. 1871. II, **2**, 109 (**11**, 31), pl. 24—Ex. **3**, 155 (**12**, 55); **6**. 16 (**15**, 428).
by oxygen. **Philipps, Kiesling e Kohlstadt.** 17 Jl. 1869. I, **6**, 284 (**9**, 300).
cars. **Shallis e Thomas.** 31 D. 1881. II, **12**, 1197 (**27**, 247), pl. 336.
— by gas. **Fleischer.** 20 Mr. 1882. II, **13**, 213 (**27**, 485), pls. 61–63.
compressed gas. **Schreiber.** 29 Mr. 1881. II, **12**, 245 (**25**, 295), pl. 59.

LIGHTING—continued.
gas. **de Caranza.** 30 Mr. 1860. (**2**, 448.)* (*Sardinia.*)
— **Lafond.** 30 D. 1856. (**1**, 325.)* (*Sardinia.*)
— **Tesorieri.** 10 S. 1873. II, **4**, 436 (**13**, 416), pl. 116.
large rooms. **Lasinio e Bertelli.** 25 My. 1870. II, **1**, 212 (**10**, 212), pl. 47.
material. **Ujhely e Burrle.** 26 Mr. 1872. II, **3**, 116 (**12**, 16).
mineral oil. **Mayrargues, Mayrargues e Tagliapietra.** 11 Je. 1881. II, **12**, 526 (**26**, 76), pl. 132.
oil. **Berardi.** 18 My. 1872. II, **3**, 211 (**12**, 111).
streets. **Boglioni fratelli.** 30 Je. 1857. (**1**, 399.)* (*Sardinia.*)
LIGHT-HOUSE. **Von Otter.** 6 D. 1876. II, **7**, 575 (**18**, 28), pl. 150.
LIGHTNING arrester, acoustic. **Leone.** 2 Ag. 1867. I, **4**, 248 (**7**, 388), pl. 76.
rod. **Battocchi.** 29 Ap. 1881. II, **12**, 379 (**25**, 429), pl. 91.
— **Cardini** 12 Ap. 1880. II, **11**, 210 (**23**, 311), pl. 62.
LIGNITE carbonizing. **Guillet.** 16 Ap. 1852. 27.* (*Sardinia.*)
— **Rosati.** 25 Je. 1875. II, **6**, 337 (**16**, 105), pl. 72. Ad. **7**, 479 (**17**, 431), pl. 121.
— furnace. **Società Carbonifera Toscana.** 16 O. 1878. II, **9**, 604 (**20**, 459), pl. 189.
drier. **Linke.** 20 O. 1877. II, **8**, 596 (**19**, 186), pl. 147.
LIME calcining. **Ciccaglia.** 18 D. 1872. II, **3**, 552 (**12**, 452).
hardening. **Smith.** 28 Jl. 1873. II, **4**, 360 (**13**, 340)—Ex. **10**, 527 (**22**, 227).
kiln. **Adhémar et Duval.** 30 S. 1856. (**1**, 259.)* (*Sardinia.*)
— **Appiani.** 16 S. 1872. II, **3**, 422 (**12**, 322), pl. 100. Ad. **6**, 506 (**16**, 274)—Ex. **6**, 507 (**16**, 275).
— **Avril.** 28 Mr. 1873. II, **4**, 157 (**13**, 137), pl. 43.
— **Baker.** 9 Mr. 1872. II, **3**, 65 (**11**, 465), pl. 19.
— **Baldermann e Bernds.** 16 S. 1878. II, **9**, 559 (**20**, 414), pl. 173.
— **Ballerio, Busnelli e Zesi.** 23 Mr. 1870. II, **1**, 109 (**10**, 109), pl. 23—Ex. **2**, 2 (**10**, 424). Ad. **2**, 20 (**10**, 442), pl. 4.
— **Bianchi.** 27 D. 1881. II, **12**, 1161 (**27**, 211), pl. 316.
— **Bianchi.** 14 F. 1882. II, **13**, 98 (**27**, 370), pl. 29.
— **Bodda.** 30 Je. 1857. (**1**, 427.)* (*Sardinia.*)
— **Bonariva.** 5 My. 1874. II, **5**, 202 (**14**, 311), pl. 43.
— **Bonariva.** 26 Ap. 1877. II, **8**, 226 (**18**, 316), pl. 64.
— **Bordonzotti.** 12 D. 1872. II, **3**, 538 (**12**, 438), pl. 130.
— **Borra.** 18 Ag. 1873. II, **4**, 382 (**13**, 362), pl. 101.
— **Bougleux.** 9 Ja. 1871. II, **2**, 8 (**10**, 430), pl. 1—Ex. **2**, 40 (**10**, 462).
— **Brunetti.** 31 D. 1861. (**3**, 170.)*
— **Butti.** 6 Ag. 1872. II, **3**, 348 (**12**, 248), pl. 88.
— **Caccialanza.** 21 Mr. 1874. II, **5**, 124 (**14**, 233), pl. 27.
— **Cassina.** 24 N. 1874. II, **5**, 579 (**15**, 188), pl. 142.
— **Cerrano.** 10 Mr. 1869. I, **6**, 86 (**9**, 102), pl. 30.
— **Chinaglia.** 8 Jl. 1872. II, **3**, 297 (**12**, 197), pl. 67.
— **Curot.** 22 Jl. 1876. II, **7**, 373 (**17**, 325), pl. 93. Ad. **8**, 317 (**18**, 407), pl. 86.
— **Elena.** 2 F. 1871. II, **2**, 24 (**10**, 446), pl. 3.
— **Fattori.** 18 S. 1877. II, **8**. 527 (**19**, 117), pls. 132, 133.
— **Fontana.** 15 Mr. 1878. II, **9**, 113 (**19**, 468), pl. 31.
— **Galeazzo.** 30 Je. 1863. (**4**, 43)*—Ex. I, **1**, 389 (**5**, 326).
— **Gatta.** 31 Mr. 1857. (**1**, 347.)* (*Sardinia.*)
— **Grasselli.** 26 O. 1880. II, **11**, 756 (**24**, 357), pl. 220.
— **Inaudi.** 14 F. 1870. II, **1**, 62 (**10**, 62), pl. 10.
— **Inaudi.** 18 My. 1872. II, **3**, 206 (**12**, 106), pl. 59.
— **Lavagno.** 14 Je. 1870. II, **1**, 241 (**10**, 241), pl. 57.
— **Lavagno e Bossi.** 14 S. 1872. II, **3**, 414 (**12**, 314), pl. 99. Ad. **4**, 563 (**14**, 43), pl. 157—Ex. **4**, 565 (**14**, 45).
— **Maccaferri.** 22 O. 1872. II, **3**, 472 (**12**, 372), pl. 115.
— **Magnetti.** 20 N. 1874. II, **5**, 565 (**15**, 174), pl. 132.
— **Marelli.** 13 S. 1870. II, **1**, 352 (**10**, 352), pl. 91.
— **Martel.** 10 Mr. 1875. II, **6**, 103 (**15**, 371).
— **Milesi, Magnetti e Comp.** 20 O. 1877. II, **8**, 610 (**19**, 200), pl. 151—Ex. **11**, 687 (**24**, 288).
— **Montagné.** 15 Mr. 1881. II, **12**, 181 (**25**, 231), pl. 44. Ad. **12**, 449 (**25**, 499), pl. 114; **12**, 1142 (**27**, 192), pl. 323—Ex. **13**, 323 (**28**, 95).
— **Müller.** 20 D. 1879. II, **10**, 842 (**23**, 42), pl. 239.

LIME kiln—continued.
— **Mundo ed al.** 30 Ja. 1865. I, **2**, 30 (**6**, 14), pl. 2.
— **Mundo.** 14 N. 1870. II, **1**, 387 (**10**, 387), pl. 100.
— **Mundo.** 22 My. 1874. II, **5**, 234 (**14**, 343), pl. 52.
— **Mundo e Adamo.** 30 Je. 1869. I, **6**, 275 (**9**, 291), pl. 93.
— **Murnigotti.** 20 Je. 1873. II, **4**, 289 (**13**, 269), pl. 77.
— **Novi.** 19 D. 1868. I, **5**, 411 (**8**, 482), pl. 121.
— **Novi.** 22 My. 1869. I, **6**, 207 (**9**, 223), pls. 58, 59.
— **Novi e Goebel.** 10 Ag. 1868. I, **5**, 276 (**8**, 346), pl. 84—Ex. II, **2**, 208, 209 (**11**, 130, 131): **4**, 132 (**13**, 112).
— **Parigi.** 30 S. 1862. (**3**, 325.)*
— **Perrichetti.** 11 Je. 1873. II, **4**, 269 (**13**, 249), pl. 69.
— **Ponzano.** 14 My. 1874. II, **5**, 223 (**14**, 332), pl. 49.
— **Querini.** 29 D. 1873. II, **4**, 613 (**14**, 93), pl. 171.
— **Ravizza.** 30 Je. 1871. II, **2**, 183 (**11**, 105), pl. 41. Ad. **4**, 96 (**13**, 76), pl. 27—Ex. **7**, 580 (**18**, 33).
— **de Rechler.** 8 Jl. 1879. II, **9**, 423 (**20**, 278), pl. 126.
— **Righini.** 13 Mr. 1871. II, **2**, 63 (**10**, 485), pl. 9.
— **Righini.** 23 Ag. 1872. II, **3**, 382 (**12**, 282), pl. 97.
— **Righini.** 29 D. 1873. II, **4**, 614 (**14**, 94), pl. 171.
— **Rizzoli.** 28 N. 1873. II, **4**, 569 (**14**, 49), pl. 159.
— **Roberti e figli.** 30 Mr. 1874. II, **5**, 132 (**14**, 241), pl. 31.
— **Rosi.** 16 Je. 1869. I, **6**, 240 (**9**, 256), pl. 79.
— **Ruggeri.** 2 N. 1877. II, **8**, 632 (**19**, 222), pl. 163—Ex. **11**, 949 (**25**, 50).
— **Salamone.** 22 O. 1874. II, **5**, 513 (**15**, 122), pl. 120.
— **Scotto.** 7 Ap. 1866. I, **3**, 96 (**6**, 422), pl. 29.
— **Scotto ed al.** 2 Ag. 1867. I, **4**, 259 (**7**, 399), pl. 80.
— **Secchi.** 20 F. 1874. II, **5**, 55 (**14**, 164), pl. 9.
— **Société anonyme pour la fabrication de terres cuites Schwandorf.** 30 N. 1878. II, **9**, 724 (**21**, 79), pl. 220. Ad. **11**, 67 (**23**, 168), pl. 22.
— **Sosso.** 31 Jl. 1869. I, **6**, 309 (**9**, 325), pl. 103—Ex. II, **1**, 261 (**10**, 261).
— **Sosso.** 5 Je. 1871. II, **2**, 163 (**11**, 85), pl. 35.
— **Tremontani.** 26 F. 1876. II, **7**, 80 (**17**, 32), pl. 21.
— **Venini.** 21 O. 1875. II, **6**, 553 (**16**, 321), pl. 132—Ex. **9**, 840 (**21**, 195).
— **Viani e Sosso.** 2 F. 1871. II, **2**, 23 (**10**, 445), pl. 4.
— **Vogt.** 30 S. 1857. (**2**, 19.)* (*Sardinia.*)
—heat utilizing. **Marchino.** 30 N. 1878. II, **9**, 733 (**21**, 88), pl. 221.
— — **Terrachini.** 30 Je. 1855. (**1**, 16.)* (*Sardinia.*)
manufacture. **Ducournau.** 14 Ja. 1876. II, **7**, 16 (**16**, 468).
— **Forbes.** 28 N. 1873. II, **4**, 566 (**14**, 46).
mixer. **Fisher.** 7 Je. 1880. II, **11**, 358 (**23**, 459), pl. 101—Ex. **12**, 619 (**26**, 169).
tarring. **Préaud.** 23 O. 1880. II, **11**, 739 (**24**, 340).
treating from gas purifying. **Dubosc.** 26 S. 1852. 37.* (*Sardinia.*)

LINING. *See* Hat.

LIQUEUR, Benedictine. **Legrand.** 14 Je. 1873. II, **3**, 239 (**12**, 139).

LIQUID. *See also* Aërated.
and solid separating apparatus. **Robert de Massy.** 22 My. 1866. I, **3**, 129 (**6**, 455), pl. 43.
clarifier. **Maignen e Rébif.** 30 S. 1881. II, **12**, 878 (**26**, 428), pl. 229.
cooler. **Dallemagne.** 19 Je. 1865. I, **2**, 179 (**6**, 163), pl. 48.
decanting. **Gaudin** 20 Ap. 1867. I, **4**, 131 (**7**, 271), pl. 42.
— **Pestellini.** 21 D. 1868. I, **5**, 423 (**8**, 494), pl. 128.
— apparatus. **Borello.** 9 Ap. 1870. II, **1**, 152 (**10**, 152), pl. 36.
— — **Borello fratelli.** 18 Mr. 1872. II, **3**, 98 (**11**, 498), pl. 29. Ad. **4**, 498 (**13**, 478), pl. 140.
— — **Borello fratelli.** 16 Jl. 1875. II, **6**, 365 (**16**, 133), pl. 79.
— — **Laburthe.** 31 D. 1863. (**4**, 143.)* Ad. I, **1**, 387 (**5**, 324), pl. 39—Ex. I, **1**, 391 (**5**, 328); II, **1**, 31 (**10**, 31).
— — **Marangoni.** 12 Ap. 1877. II, **8**, 191 (**18**, 281) pl. 53.
— — **Sabattini.** 20 S. 1880. II, **11**, 642 (**24**, 243), pl. 185.
— — **Tourenc.** 16 F. 1875. II, **6**, 68 (**15**, 336), pl. 14.
desulphurizing. **Lux.** 30 Je. 1881. II, **12**, 594 (**26**, 144). Ad. **12**, 1156 (**27**, 206).

LIQUID—continued.
distributing regulator. **White.** 27 D. 1875. II, **6**, 672 (**16**, 440), pl. 170.
elevator. **Barberis.** 20 Mr. 1854. 66.* (*Sardinia.*)
extracting slime and sand from. **Bazin.** 28 D. 1871. II, **2**, 469 (**11**, 391), pl. 93—Ex. **8**, 758 (**19**, 348).
forcing by liquid carbonic acid. **Rayot.** 30 O. 1880. II, **11**, 774 (**24**, 375), pl. 222.
gage motion. **Du Boys.** 13 Mr. 1868. I, **5**, 17 (**8**, 87), pl. 6—Ex. **6**, 21 (**9**, 37).
heater, cooler, and mixer. **Nolden.** 19 Ag. 1871. II, **2**, 265 (**11**, 187), pl. 58.
meter. **Ahrbecker.** 20 Jl. 1877. II, **8**, 413 (**19**, 3), pl. 107.
— **Carbone.** 28 Ag. 1877. II, **8**, 508 (**19**, 98), pl. 128.
— **Casalonga.** 30 S. 1874. II, **5**, 464 (**15**, 73), pl. 108.
— **Ducenne.** 23 Ap. 1881. II, **12**, 353 (**25**, 403), pl. 81.
— **Everett.** 20 Ap. 1874. II, **5**, 176 (**14**, 285), pl. 39.
— **Faller.** 31 Ag. 1876. II, **7**, 437 (**17**, 389), pl. 106.
— **Ferraris.** 15 D. 1879. II, **10**, 835 (**23**, 35), pls. 237, 238.
— **Hutter.** 26 Jl. 1879. II, **10**, 507 (**22**, 207), pl. 147—Ex. **11**, 605 (**24**, 206).
— **Kaiser.** 21 D. 1880. II, **11**, 881 (**24**, 482), pl. 254.
— **Marangoni.** 12 Ap. 1877. II, **8**, 19 (**18**, 281), pl. 53.
— **Robertson.** 19 Ag. 1873. II, **4**, 393 (**13**, 373), pl. 103.
— **Samain.** 25 My. 1880. II, **11**, 340 (**23**, 441), pls. 96, 97.
— **Ugazzi.** 20 O. 1881. II, **12**, 928 (**26**, 478), pl. 247.
— **Voice.** 9 Ag. 1879. II, **10**, 530 (**22**, 230), pl. 151.
— **Werckmeister.** 27 Je. 1870. II, **1**, 262 (**10**, 262), pl. 67.
— and engine. **Oury.** 20 Mr. 1869. I, **6**, 102 (**9**, 118), pl. 30. Ad. **6**, 481 (**9**, 497), pl. 153; II, **1**, 231 (**10**, 231), pl. 58.
— retail. **Blum.** 23 Ap. 1881. II, **12**, 354 (**25**, 404), pl. 88. Ad. **12**, 787 (**26**, 337), pl. 206.
purifying apparatus. **Needham.** 14 Ap. 1869. I, **6**, 135 (**9**, 151), pl. 45.
storing vessel. **Préfontaine.** 25 Ja. 1865. I, **2**, 25 (**6**, 9).
transporting case. **Bavastro.** 16 Ja. 1879. II, **10**, 2 (**21**, 202).

LICORICE extract. **Smith.** 31 Mr. 1864. (**4**, 186)*—Ex. I, **1**, 185 (**5**, 121).
root preparing. **Musumeci-Gulli.** 25 Ap. 1874. II, **5**, 187 (**14**, 296).

LITHOGRAPHIC press. **Alauzet et Comp.** 30 D. 1878. II, **9**, 791 (**21**, 146), pl. 237.
— **Borgo-Caratti e Paolotti.** 8 Je. 1877. II, **8**, 325 (**18**, 415), pl. 88.
printing. **Pellas.** 30 Je. 1858. (**2**, 63.)* (*Sardinia.*)
— in colors. **Guéneux et Mormand.** 15 O. 187 II, **6**, 548 (**16**, 316).
— — **Riva.** 13 Ag. 1880. II, **11**, 554 (**24**; 155.) Ad. **12**, 476 (**26**, 26), pl. 20.
— — relief. **Armanino vedova e figli.** 12 Ap. 1877. II, **8**, 192 (**18**, 282).
— on metals. **Serafini e d'Aste.** 28 N. 1873. II, **4**, 570 (**14**, 50).

LOADING and unloading vessels. **Fournier des Corats.** 24 Ag. 1865. I, **2**, 227 (**6**, 211), pl. 62.
apparatus, steam. **Borde, Petit-Laroche et Labalette.** 25 S. 1880. II, **11**, 652 (**24**, 253), pl. 189.

LOCK. *See also* Ammunition wagon, Fire-arm, Type form.
Abrate. 31 O. 1867. I, **4**, 348 (**7**, 489), pl. 110—Ex. II, **1**, 413 (**10**, 413).
Acquadro. 18 My. 1876. II, **7**, 244 (**17**, 196), pl. 57.
Ade. 27 Ag. 1879. II, **10**, 570 (**22**, 270), pl. 158.
Bensel. 25 Ja. 1879. II, **10**, 16 (**21**, 216), pl. 3.
Boubilla. 30 Mr. 1862. (**3**, 229.)*
Cucco. 18 O. 1878. II, **9**, 633 (**20**, 488), pl. 195.
Hasdenteufel. 9 Ag. 1879. II, **10**, 529 (**22**, 229), pl. 151. Ad. **11**, 837 (**24**, 438), pl. 246).
Kleinau e Comp. 30 S. 1876. II, **7**, 469 (**17**, 421), pls. 117, 118—Ex. **8**, 582 (**19**, 172).
Parigot. 22 Ja. 1867. I, **4**, 28 (**7**, 167), pls. 9, 10.
Ricciardi. 10 F. 1865. I, **2**, 46 (**6**, 30), pl. 5.
Société Anonyme Vorwärts. 31 My. 1881. II, **12**, 464 (**26**, 14), pl. 117.
Toldi. 16 S. 1878. II, **9**, 560 (**20**, 415), pl. 169.
alarm. **Lambertenghi.** 28 F. 1879. II, **10**, 98 (**21**, 298), pl. 24.

LOCK alarm—continued.
— **Manzetti.** 19 N. 1880. II, **11**, 815 (**24**, 416), pl. 232.
— **Sant 'Andrea.** 20 N. 1874. II, **5**, 573 (**15**, 182), pl. 135.
— **Silvestre.** 30 Jl. 1866. I, **3**, 186 (**7**, 12), pl. 59.
combination. **Ciani.** 7 F. 1876. II, **7**, 49 (**17**, 1), pl. 13.
— **Craveri.** 3 Je. 1875. II, **6**, 279 (**16**, 47), pl. 62.
— **Lambertenghi.** 31 Mr. 1879. II, **10**, 181 (**21**, 381), pl. 55.
— **de Martini.** 14 My. 1874. II, **5**, 225 (**14**, 334), pl. 51—Ex. **6**, 358 (**16**, 126.)
— **Saur.** 14 Mr. 1866. I, **3**, 71 (**6**, 397), pl. 22.
— **Vago.** 26 D. 1877. II, **8**, 741 (**19**, 331). pl. 198.
electric. **Lemke.** 30 Mr. 1878. II, **9**, 183 (**20**, 38), pl. 47.
freight car. **Thomer e Köhazy.** 9 Ag. 1879. II, **10**, 534 (**22**, 234), pl. 152—Ex. **11**, 565 (**24**, 166).
indicator. **Lucchesini.** 21 N. 1878. II, **9**, 712 (**21**, 67), pl. 217.
padlock. **Baudracco.** 11 Je. 1879. II, **10**, 353 (**22**, 53), pl. 94.
— **Bazelaire.** 18 Je. 1875. II, **6**, 317 (**16**, 85), pl. 69.
pneumatic. **Lemke.** 30 Mr. 1878. II, **9**, 183 (**20**, 38), pl. 47.
safety. **Dubois.** 27 Ap. 1865. I, **2**, 132 (**6**, 116), pl. 32.

LOCOMOTIVE. *See also* Hydraulic.
Balduini e Crescia. 31 Mr. 1858. (**2**, 43.)* (*Sardinia.*)
Beattie. 31 Mr. 1857. (**1**, 363.)* (*Sardinia.*)
Belpaire. 30 S. 1880. II, **11**, 686 (**24**, 287), pls. 196, 197.
Brown. 10 O. 1877. II, **8**, 585 (**19**, 175), pls. 144, 145.
Brown. 31 D. 1880. II, **11**, 944 (**25**, 45), pls. 265, 266.
Brunner e Tocanier. 18 My. 1876. II, **7**, 239 (**17**, 191), pl. 55—Ex. **8**, 312 (**18**, 402).
Cigliano. 22 D. 1875. II, **6**, 655 (**16**, 423), pl. 164.
Cigliano. 27 S. 1879. II. **10**, 615 (**22**, 315), pl. 173.
Cottrau. 30 N. 1881. II, **12**, 1068 (**27**, 118), pl. 292. Alt. **13**, 359 (**28**, 131).
Cottrau e Pattison. 3 Mr. 1873. II, **4**, 106 (**13**, 86), pl. 31.
Estrade. 12 S. 1881. II, **12**, 813 (**26**, 363), pl. 215.
Fairlie. 13 Mr. 1871. II, **2**, 64 (**10**, 486), pl. 10.
Francq. 9 Mr. 1876. II, **7**, 105 (**17**, 57), pl. 25—Ex. **13**, 354 (**28**, 126).
Francq. 16 N. 1878. II, **9**, 694 (**21**, 49), pl. 214.
Girard. 17 Je. 1870. II, **1**, 246 (**10**, 246), pls. 61, 62.
Hagans. 31 My. 1 79. II, **10**, 333 (**22**, 33), pl. 92.
Harding. 22 D. 1875. II, **6**, 662 (**16**, 430), pl. 169.
Jeary. 30 S. 1857. (**2**, 17.)* (*Sardinia.*)
Krauss. 18 My. 1878. II, **9**, 310 (**20**, 165), pl. 85.
Lanzillo. 30 Ap. 1875. II, **6**, 218 (**15**, 486), pl. 45.
Larmanjat. 26 Mr. 1872. II, **3**, 112 (**12**, 12), pls. 35, 36.
Lenz e Allolio. 13 Ap. 1882. II, **13**, 313 (**28**, 85), pl. 83.
Mallet. 30 S. 1876. II, **7**, 467 (**17**, 419), pls. 115, 116.
Meliton. 31 Ag. 1868. I, **5**, 301 (**8**, 371), pl. 94.
Merryweather, Merryweather e Jakeman. 17 Ap. 1876. II, **7**, 206 (**17**, 158), pl. 47.
Metcalfe, Hamer e Metcalfe. 30 Mr. 1876. II, **7**, 153 (**17**, 105), pl. 34.
Orlowski. 14 My. 1873. II, **4**, 222 (**13**, 202), pl. 60.
Orsi. 19 Jl. 1865. I, **2**, 197 (**6**, 181), pl. 52.
Passedoit. 31 Mr. 1862. (**3**, 201.)*
Ponzetti. 30 Je. 1863. (**3**, 488.)*
Raub. 10 Ag. 1881. II, **12**, 729 (**26**, 279), pls. 191–193.
Revol. 11 My. 1872. II, **3**, 199 (**12**, 99), pl. 58.
Rowan. 9 Mr. 1882. II, **13**, 176 (**27**, 448), pl. 50.
Rowan. 9 Mr. 1882. II, **13**, 177 (**27**, 449), pl. 51.
Samuelson. 9 F. 1874. II, **5**, 45 (**14**, 154), pl. 8—Ex. **8**, 198 (**18**, 288).
Schichau. 2 Mr. 1881. II, **12**, 139 (**25**, 189), pl. 36.
Société anonyme métallurgique et charbonnière Belge. 21 O. 1875. II, **6**, 567 (**16**, 335), pls. 139, 140.
Société en actions de construction de locomotive et de machines Hohen Zollern. 15 S. 1879. II, **10**, 601 (**22**, 301), pl. 167.
Thomas. 28 S. 1880. II, **11**, 664 (**24**, 265), pl. 191—Ex. **12**, 798 (**26**, 348).
Tilkin-Mention. 25 Ap. 1878. II, **9**, 230 (**20**, 85), pl. 58.
and boiler. **Fairlie.** 29 N. 1865. I, **2**, 313 (**6**, 297), pls. 92–97.

LOCOMOTIVE—continued.
and tender. **Bell.** 31 Ag. 1868. I, **5**, 304 (**8**, 374), pl. 89.
— **Sturrock.** 30 S. 1863. (**4**, 104)*—Ex. I, **1**, 377 (**5**, 314).
attachment. **Harmignies.** 27 N. 1877. II, **8**, 675 (**19**, 265), pl. 179.
bogie truck. **Apsey.** 31 D. 1880. II, **11**, 920 (**25**, 21), pl. 260.
boiler. **Barnes.** 4 Ja. 1869. I, **6**, 5 (**9**, 21), pl. 1.
— **Wootten.** 10 Ap. 1879. II, **10**, 204 (**21**, 404), pl. 62.
— feed. **Haddan.** 24 D. 1878. II, **9**, 779 (**21**, 134), pl. 231—Ex. **11**, 71 (**23**, 172).
— furnace. **Betti.** 31 Mr. 1863. (**3**, 443.)*
— — **Nepilly.** 14 Je. 1882. II, **13**, 24 (**27**, 296), pl. 7.
— — **Spitaels.** 30 Je. 1860. (**2**, 371.)* (*Sardinia.*)
caloric. **Wolff.** 31 Ag. 1881. II, **12**, 784 (**26**, 334), pl. 207.
central-rail. **Fell.** 9 Jl. 1869. I, **6**, 265 (**9**, 281), pl. 91—Ex. II, **3**, 234 (**12**, 134).
compound. **Schichau.** 17 Mr. 1881. II, **12**, 204 (**25**, 254), pls. 49, 50.
coupling. **Tilp.** 17 Ap. 1875. II, **6**, 178 (**15**, 446), pl. 34.
cow-catcher. **Hondayer ed al.** 9 Ap. 1864. I, **1**, 87 (**5**, 23), pl. 11.
cylinder. **Mathieu e Verrier.** 13 S. 1871. II, **2**, 300 (**11**, 222), pl. 66.
driving-wheel. **Barbavara di Gravellona.** 22 Jl. 1870. II, **1**, 311 (**10**, 311), pl. 78.
— **Venditti.** 8 Ag. 1874. II, **5**, 384 (**14**, 493), pl. 87.
— adhesion increasing. **Cernuschi.** 30 Je. 1856. (**1**, 206.)* (*Sardinia.*)
— — **Mayo.** 16 Mr. 1882. II, **13**, 200 (**27**, 472), pl. 54.
— — **Morino.** 30 Je. 1856. (**1**, 193.)* (*Sardinia.*)
— — **Windhausen.** 31 D. 1857. (**1**, 3.)* (*Sardinia.*)
fire-box. **Reid.** 30 Jl. 1881. II, **12**, 715 (**26**, 265), pl. 148.
— and smoke consumer. **Reimherr.** 22 Ja. 1876. II, **7**, 31 (**16**, 483), pl. 3.
gas. **Sauvageot.** 29 Mr. 1882. II, **13**, 248 (**28**, 20), pl. 75.
— explosive. **Carobbi e Bellini.** 20 F. 1874. II, **5**, 62 (**14**, 171), pls. 10–12. Ad. **5**, 492 (**15**, 101), pl. 115.
gradient. **Agolini.** 31 Ag. 1868. I, **5**, 296 (**8**, 366), pl. 97.
— **Caccianino.** 31 D. 1858. (**2**, 174.)* (*Sardinia.*)
— **Fell.** 31 Mr. 1863. (**3**, 455.)* Ad. I, **1**, 440 (**5**, 377), pls. 49–52—Ex. **1**, 524 (**5**, 461). Ad. **3**, 225 (**7**, 51), pl. 65—Ex. II, **1**, 39 (**10**, 39).
— **Fell.** 18 Je. 1867. I, **4**, 198 (**7**, 338), pls. 58–62. Ad. **5**, 441 (**9**, 12), pl. 134—Ex. II, **1**, 245 (**10**, 245).
— **Garazzi.** 7 S. 1866. I, **3**, 204 (**7**, 30), pl. 57.
— **Grassi e Tubi.** 31 D. 1861. (**3**, 172.) Ad. (**1**, 105)*—Ex. I, **1**, 178 (**5**, 114).
— **Handyside.** 30 N. 1875. II, **6**, 631 (**16**. 399), pl. 155.
— **Larmanjat.** 28 Mr. 1877. II, **8**, 152 (**18**, 242), pl. 44.
— **Lorenzini.** 30 S. 1856. (**1**, 265.) Ad. (**1**, 23).* (*Sardinia.*)
— **Margutti.** 25 O. 1866. I, **3**, 239 (**7**, 65), pl. 73.
— **Ponzetti.** 30 Je. 1855. (**1**, 17.)* (*Sardinia.*)
— **Sommeiller, Grandis e Ruga.** 23 Mr. 1856. 69.* (*Sardinia.*)
— **Sparre.** 2 Mr. 1867. I, **4**, 81 (**7**, 220), pl. 31—Ex. **5**, 135 (**8**, 205).
hydraulic. **Borelli.** 31 D. 1855. (**1**, 106.)* (*Sardinia.*)
injector-pipe thawing. **Barnes.** 4 Ja. 1869. I, **6**, 3 (**9**, 19), pl. 1.
mountain. **Emanueli e Graffigna.** 30 S. 1863. (**4**, 61.)*
— **Roechlin et Cie.** 30 S. 1859. (**2**, 267.)* (*Sardinia*)—Ex. I, **1**, 124 (**5**, 60); **2**, 207 (**6**, 191).
pneumatic. **Baldacci.** 29 Mr. 1882. II, **13**, 245 (**28**, 17), pl. 68.
— **Resio.** 30 Je. 1855. (**1**, 72.)* (*Sardinia.*)
reusing steam. **Motard.** 21 S. 1872. II, **3**, 433 (**12**, 333), pl. 106.
smoke-consumer. **Venini.** 26 Je. 1871. II, **2**, 190 (**11**, 112), pl. 44.
spark-arrester. **Santen.** 6 Ag. 1878. II, **9**, 510 (**20**, 365), pl. 158.
speed-indicator. **Baumann.** 30 Ap. 1878. II, **9**, 260 (**20**, 115), pl. 70—Ex. **10**, 332 (**22**, 32).
— **Dato.** 25 Mr. 1876. II, **7**, 144 (**17**, 96), pl. 33—Ex. **8**, 166 (**18**, 256).

LOCOMOTIVE speed-indicator—continued.
— **Klose.** 28 Ag. 1878. II, **9**, 528 (**20**, 383), pl. 163.
— **Murnigotti.** 31 D. 188 '. II, **11**, 908 (**25**, 9), pl. 261.
street. **Harding.** 22 D. 1875. II, **6**, 662 (**16**, 430), pl. 169.
— **Matthews.** 10 N. 1880. II, **11**, 795 (**24**, 396), pl. 230.
— car. **Remington.** 31 D. 1872. II, **3**, 577 (**12**, 477), pl. 142.
traction. **Agudio.** 30 S. 1861. (**3**, 92.) Ad. (**1**, 93)*—Ex. I, **1**, 189 (**5**, 125); **1**, 485 (**5**, 422); **4**, 389 (**8**, 30); **5**, 361 (**8**, 432); II, **1**, 372 (**10**, 372); **3**, 426 (**12**, 326).
— gage. **Killiches.** 21 O. 1876. II, **7**, 506 (**17**, 459), pl. 128.
tramway. **Uhler e Simonet.** 15 F. 1880. II, **11**, 65 (**23**, 166), pl. 23.
water feed. **Prall.** 7 F. 1873. II, **4**, 59 (**13**, 39), pl. 15.
with float. **Benati e Gastaldon.** 30 S. 1858. (**2**, 101.)* (*Sardinia.*)
LOG. **Risso e Mascardi.** 30 O. 1880. II, **11**, 762 (**24**, 363), pl. 221.
electro-magnetic. **Anfonso.** 18 Ap. 1867. I, **4**, 116 (**7**, 256), pl. 37.
LOOM. **Anciot.** 31 D. 1857. (**2**, 27.)* (*Sardinia.*)
Bélicard. 15 Mr. 1877. II, **8**, 128 (**18**, 218), pl. 36.
Benninger fratelli. 30 D. 1878. II, **9**, 813 (**21**, 168), pls. 243, 244.
Bertolotti e Riva. 5 Jl. 1874. II, **5**, 343 (**14**, 452), pl. 80.
Brandon. 5 Mr. 1869. I, **6**, 79 (**9**, 95), pls. 31–34—Ex. II, **1**, 37 (**10**, 37); **6**, 57 (**15**, 325); **10**, 86 (**21**, 286).
Deutsch. 19 Jl. 1865. I, **2**, 196 (**6**, 180), pl. 55.
Dumas. 30 S. 1867. I, **4**, 320 (**7**, 460), pl. 97.
Durand et Pradel. 31 D. 1858. (**2**, 200.)* (*Sardinia.*)
Escher Wyss et Cie. 30 Je. 1863. (**3**, 467).*
Escher Wyss e Comp. 2 S. 1872. II, **3**, 398 (**12**, 298), pl. 100.
Foster. 16 Jl. 1875. II, **6**, 373 (**16**, 141), pl. 82.
Graemiger. 31 Mr. 1863. (**3**, 484)*—Ex. I, **1**, 356 (**5**, 293); **1**, 357 (**5**, 294).
Grossior. 30 Je. 1855. (**1**, 22.)* (*Sardinia.*)
Harrison. 30 D. 1864. I, **1**, 553 (**5**, 490), pls. 94, 95.
Heilmann. 19 Je. 1872. II, **3**, 265 (**12**, 165), pl. 72. Ad. **3**, 308 (**12**. 208), pl. 78.
Husson. 30 D. 1860. (**2**, 473.)* (*Sardinia.*)
Köttgen. 10 N. 1877. II, **8**, 638 (**19**, 228), pl. 164—Ex. **9**, 640 (**20**, 495).
Loret-Vermeersch. 30 Mr. 1857. (**1**, 368.)* (*Sardinia.*)
Mouline. 31 Mr. 1861. (**3**, 5.)*
Posca. 28 S. 1881. II, **12**, 868 (**26**, 418), pl. 232.
Ravasini. 9 N. 1881. II, **12**, 1002 (**27**, 52), pl. 272.
Ravizza. 30 S. 1857. (**1**, 461.)* (*Sardinia.*)
Richard. 7 N. 1874. II, **5**, 539 (**15**, 148), pl. 127.
Schönherr. 11 Jl. 1876 II, **7**, 344 (**17**, 296), pls. 80–85.
Tremeschini. 30 S 1855. (**1**, 88.)* (*Sardinia.*)
Tucker. 9 N. 1881. II, **12**, 999 (**27**, 49), pl. 272.
applying electricity. **Bonelli.** 20 Mr. 1854. 67.* (*Sardinia.*)
basket. **Scheuber.** 24 F. 1880. II, **11**, 96 (**23**, 197), pl. 36.
electric. **Baldoni.** 31 Mr. 1857. (**1**, 378.)* (*Sardinia.*)
— design attachment. **Vincenzi.** 30 Je. 1856. (**1**, 182.)* (*Sardinia.*)
— Jacquard. **Bertini.** 31 Mr. 1858. (**2**, 206.)* (*Sardinia.*)
figuring device. **Vaj e Bernardi.** 30 S. 1855. (**1**, 114.)* (*Sardinia.*)
hat. **Reed.** 5 Je. 1871. II, **2**, 162 (**11**, 84), pl. 36.
heddle. **Chapuis.** 26 Ja. 1855. 109.* (*Sardinia.*)
— **Mosca.** 13 Ag. 1880. II, **11**, 568 (**24**, 169), pl. 155.
Jacquard. **Allemano, Astigiano ed Allemano.** 31 Mr. 1857. (**1**, 412.)* (*Sardinia.*)
— **Belluschi.** 31 O. 1873. II, **4**, 537 (**14**, 17), pl. 143—Ex. **7**, 623 (**18**, 76). Ad. **9**, 138 (**19**, 493), pl 34.
— **Belluschi.** 31 My. 1881. II, **12**, 480 (**26**, 30), pl. 122.
— **de Grandi.** 28 My. 1868. 1, **5**, 153 (**8**, 223), pl. 41.
— **Herba.** 31 Mr. 1863. (**3**, 440.)*
— **Vincenzi.** 31 D. 1857. (**2**, 1.)* (*Sardinia.*)
— hook. **de Fontaine-Moreau.** 31 Mr. 1856. (**1**, 162)* (*Sardinia.*)
— reed. **Corsiglia.** 31 D. 1856. (**1**, 29.)* (*Sardinia.*)

LOOM—continued.
lathe. **Negri e Franconi.** 29 N. 1879. II, **10**, 799 (**22**, 499), pl. 220.
— **Vincenzi.** 30 Je. 1856. (**1**, 214.)* (*Sardinia.*)
pile fabric. **Bouveyron.** 30 S. 1855. (**1**, 65.)* (*Sardinia.*)
— **Ghersi.** 30 S. 1858. (**2**, 151.)* (*Sardinia.*)
— **Morel e Riboulet.** 29 O. 1872. II, **3**, 489 (**12**, 389), pl. 115.
— **Pogliani.** 15 Ag. 1872. II, **3**, 362 (**12**, 262), pl. 88.
pneumatic. **Corsiglia e Trombotto.** 30 Je. 1856. (**1**, 191.)* (*Sardinia.*)
power. **Benninger.** 12 Mr. 1866. I, **3**, 55 (**6**, 381), pl. 16.
reed manufacture. **Perret.** 10 S. 1867. I, **4**, 308 (**7**, 448), pl. 92.
regulator. **Gérard.** 21 Ap. 1875. II, **6**, 183 (**15**, 451), pl. 35.
ribbon. **Brun.** 31 D. 1857. (**1**. 322.)* (*Sardinia.*)
— **Nejrotti.** 29 My. 1853. 48.* (*Sardinia.*)
shaft lifting mechanism. **Blank.** 30 S. 1881. II, **12**, 883 (**26**, 433), pl. 235.
shuttle. **Frazza.** 27 Je. 1872. II, **3**, 274 (**12**, 174), pl. 83.
— bobbin. **Bassi.** 14 O. 1880. II, **11**, 713 (**24**, 314), pl. 207.
silk. **Marchese.** 16 Ag. 1850. 11.* (*Sardinia.*)
stop mechanism. **Cicognani.** 5 D. 1867. I, **4**, 392 (**8**, 33), pl. 112. Ad. **5**, 78 (**8**, 148), pl. 20.
warp-beam. **Keller.** 12 N. 1879. II, **10**, 746 (**22**, 446), pl. 203.
LOT drawing urn, transparent. **Morini.** 6 S. 1880. II, **11**, 619 (**24**, 220), pl. 178.
LOUSE extirpator. **Mertoli.** 28 Ag. 1877. II, **8**, 518 (**19**, 10-), pl. 130.
LOWERING large objects down mountains, machine for. **Fabbricotti.** 13 F. 1869. I, **6**, 50 (**9**, 66), pl. 12.
LOZENGE-MACHINE. **Bertea.** 3 D. 1866. I, **3**, 264 (**7**, 90), pl. 75.
LUBRICATING by water. **Aerts.** 31 Mr. 1865. I, **2**, 93 (**6**, 77), pl. 19—Ex. II, **2**, 97 (**11**, 19).
compound. **Capuccio.** 30 S. 1861. (**3**, 121.)*
— **Carola.** 25 Ja. 1869. I, **6**, 25 (**9**, 41).
— **Durham et Wyat** 31 D. 1856. (**1**, 338.)* (*Sardinia.*)
— **Irvine.** 27 Mr. 1882. II, **13**, 241 (**28**, 13).
— **Kingzett e Zigler.** 9 Ag. 1878. II, **9**, 515 (**20**, 370)—Ex. **12**, 850 (**26**, 410).
— **Scott.** 11 My. 1878. II, **9**, 274 (**20**, 129).
— **Vidal et Cie.** 16 My. 1878. II, **9**, 302 (**20**, 157), pl. 83.
— disincrusting. **Bernhard.** 19 D. 1876. II, **7**, 602 (**18**, 55).
— india-rubber tree. **Duhousset.** 31 Mr. 1861. (**2**, 499.)*
— manufacture from animal refuse. **Anthony.** 18 Mr. 1879. II, **10**, 120 (**21**, 320), pl. 43.
device. **Girard.** 24 Ag. 1865. I, **2**, 230 (**6**, 214), pls. 63, 64.
machinery. **Salamon.** 19 Ap. 1872. II, **3**, 156 (**12**, 16)—Ex. **4**, 210 (**13**, 190).
steam engines and boilers. **Crane.** 6 Je. 1872. II, **3**, 229 (**12**, 129).
superheated steam-engines. **Trossin.** 15 O. 1873. II, **4**, 506 (**13**, 486), pl. 142.
LUBRICATOR. *See also* Axle, Car-axle, Journal bearing, Steam-engine.
Folliet. 17 N. 1869. I, **6**; 416 (**9**, 432), pl. 137.
Hignette. 16 Ag. 1877. II. **8**, 486 (**19**, 76), pl. 125.
Lenormand. 11 F. 1875. II, **6**, 58 (**15**, 326), pl. 13.
Michelet ed al. 12 Ap. 1864. I, **1**, 98 (**5**, 34), pl. 7.
Moreggia. 16 N. 1878. II, **9**, 702 (**21**, 57), pl. 215.
Proust. 3 N. 1864. I, **1**, 490 (**5**, 427), pl. 77.
Von Jeinsen e Monroe. 26 N. 1870. II, **1**, 393 (**10**, 393), pl. 101.
bearings. **Delannoy.** 30 Je. 1860. (**2**, 369.)* Ad. (**1**, 90). (*Sardinia.*)
— **Piret.** 31 Mr. 1862. (**3**, 257)*—Ex. I, **1**, 115 (**5**, 51); **5**, 133 (**8**, 203).
steam-engine. **Chiazzari de Torres.** 24 S. 1875. II, **6**, 516 (**16**, 284), pl. 126.
LUNCH-CAN. **Corradi.** 9 F. 1881. II, **12**, 69 (**25**, 119), pl. 18.
LUNG protector. **Loeb.** 25 My. 1878. II, **9**, 321 (**20**, 176), pl. 87.
tester. **Scervini.** 19 D. 1876. II, **7**, 594 (**18**, 47), pl. 152.

"MACHINE POLYGÈNE." **Cretté.** 31 D. 1861. (**3**, 238.)*
MACHINERY brake. **Chiabaud.** 11 Je. 1879. II, **10**, 347 (**22**, 47), pl. 99.
— **Mégy de Echeverria e Bazan.** 10 O. 1872. II, **3**, 462 (**12**, 362), pls. 111, 112—Ex. **4**, 272 (**13**, 252), pl. 71.
— **Omboni.** 25 Ja. 1871. II, **2**, 14 (**10**, 436), pl. 5.
— **Sabatier e Pouget.** 18 Jl. 1878. II, **9**, 457 (**20**, 312), pl. 126. Ad. **10**, 484 (**22**, 184), pl. 135.
— **Testa.** 30 Mr. 1875. II, **6**. 134 (**15**, 402), pl. 29.
regulator. **Manin e Merryweather.** 15 S. 1874. II, **5**, 449 (**15**, 58), pl. 105.
— **Roussille.** 11 Ja. 1882. II, **13**, 15 (**27**, 287), pl. 5.
MADDER extract. **Pernod.** 21 Mr. 1865. I, **2**, 87 (**6**, 71).
— **Pernod.** 21 Ja. 1867. I, **4**, 14 (**7**, 153).
MAGNESIUM carbonate, extracting from dolomite. 16 Ja. 1869. 16 Ja. 1869. I, **6**, 15 (**9**, 31), pls. 3, 4.
carbonate manufacture. **Collotta.** 27 S. 1879. II, **10**, 610 (**22**, 310).
— **Monzini e Ravizza.** 25 Je. 1875. II, **6**, 335 (**16**, 103).
hydrate, preparing, for extracting ammonia from sewage. **Schloesing.** 16 Ap. 1881. II, **12**, 328 (**25**, 378). Ad. **12**, 444 (**25**, 494); **12**, 807 (**26**, 357).
manufacture. **Petit Jean.** 31 Mr. 1858. (**2**, 66.)* (*Sardinia.*)
silicate objects. **Leoni.** 31 Mr. 1859. (**2**, 252.)* (*Sardinia.*)
MAGNET. **Fontaine.** 31 My. 1873. II, **4**, 252 (**13**, 232), pl. 68.
MAGNETO-ELECTRIC MACHINE. **Canale.** 12 Ap. 1880. II, **11**, 211 (**23**, 312), pl. 62.
Seeley. 26 Je. 1880. II, **11**, 428 (**24**, 29), pl. 127.
MALTING. **Hatscheck.** 12 Je. 1874. II, **5**, 272 (**14**, 381), pl. 64.
machine. **Mautner.** 25 My. 1880. II, **11**, 338 (**23**, 439), pl. 95.
MAN-POWER ENGINE. **Giardinieri fratelli.** 22 Ja. 1876. II, **7**, 25 (**16**, 477), pl. 4.
Russo. 30 S. 1868. I, **5**, 347 (**8**, 417).
MANGANESE iron alloy manufacture. **Compagnie anonyme des fonderies et forges de Terre-Noire, La Voulte et Bességes.** 23 Je. 1874. II, **5**, 299 (**14**, 408), pl. 72.
— **Compagnie des fonderies et forges de Terre-Noire, La Voulte et Bességes.** 15 Jl. 1874. II, **5**, 345 (**14**, 454), pl. 80.
— **Compagnie des fonderies et forges de Terre-Noire, La Voulte et Bességes.** 15 Jl. 1874. II, **5**, 347 (**14**, 456).
MANGLE. **Zanelli.** 13 O. 1876. II, **7**, 498 (**17**, 451), pl. 126.
MAP dissecting. **Laurecisque.** 9 Ag. 1867. I, **4**, 266 (**7**, 406).
MARBLE, artificial. **Davey.** 31 My. 1872. II, **3**, 218 (**12**, 118)—Ex. **4**, 243 (**13**, 223).
— **Fioravanti.** 31 D. 1851. (**2**, 159.)* (*Sardinia.*)
— **Fioravanti.** 24 Ap. 1866. I, **3**, 120 (**6**, 446).
— **Frattini.** 30 Ap. 1860. (*Austria.*)*
— **Gironi, Vercesi e Perrier.** 15 Mr. 1871. II, **2**, 68 (**10**, 490).
— **Laneri.** 31 Mr. 1868. I, **5**, 58 (**8**, 128).
— **Scalzi.** 8 F. 1872. II, **3**, 40 (**11**, 440).
— **Spanna.** 9 Ja. 1851. 13*. (*Sardinia.*)
— **Terruggia e Comp.** 30 Je. 1856. (**1**, 172.)* (*Sardinia.*)
coloring. **Montaldo padre e figlio.** 12 O. 1880. II, **11**, 699 (**24**, 300).
etching. **Fornara.** 30 Je. 1863. (**4**, 30.)*
imitation. **Batonnier.** 31 Mr. 1881. II, **12**, 269 (**25**, 319).
ornamenting. **Hill.** 19 D. 1866. I, **3**, 288 (**7**, 114).
sawing machine. **Lombardini ed al.** 21 Jl. 1864. I, **1**, 359 (**5**, 296), pl. 62—Ex. **2**, 176 (**6**, 160); **4**, 222 (**7**, 362).
variegated. **Del Buono.** 14 D. 1872. II, **3**, 544 (**12**, 444).
MARBLEIZING gypsum. **Iosia e Savoia.** 11 My. 1878. II, **9**, 285 (**20**, 140)—Ex. **12**, 702 (**26**, 252).
— **Sbolci.** 8 Je. 1867. I, **4**, 174 (**7**, 314).
MARINE air engine. **Orsini.** 14 Ap. 1869. I, **6**, 142 (**9**, 158), pl. 45.
engine. **Gambaro.** 10 Ag. 1868. I, **5**, 275 (**8**, 345).
— **Mathieu.** 27 Ap. 1869. I, **6**, 172 (**9**, 188), pl. 62. Ad. **6**, 283 (**9**, 299), pl. 94; II, **1**, 151 (**10**, 151), pl. 36.
MARINE—continued.
signal. **Baker.** 15 Ap. 1882. II, **13**. 326 (**28**, 98), pl. 86.
— **Gisborne.** 29 S. 1868. I, **5**, 336 (**8**, 406), pls. 100, 101—Ex. II, **2**, 352 (**11**, 274).
— **Greco.** 25 My. 1877. II, **8**, 283 (**18**, 373), pl. 77—Ex. **10**, 382 (**22**, 82).
— **Von Otter.** 6 D. 1876. II, **7**, 574 (**18**, 27), pl. 150.
— safety. **Barker.** 30 Je. 1879. II, **10**, 417 (**22**, 117), pls. 120, 121—Ex. **11**, 375 (**23**, 476).
MASH. **Mambré.** 10 Ag. 1877. II, **8**, 466 (**19**, 56), pl. 121.
machine. **Wagner.** 16 O. 1871 II, **2**, 345 (**11**, 268), pl. 74.
MAST. **Coles.** 31 D. 1863. (**3**, 413.)*
MASTIC. *See also* Asphalt.
sulphuric. **Roggeroni.** 30 S. 1860. (**2**, 434.)* (*Sardinia.*)
MAT. *See* Oil-press.
MATCH. *See also* Advertising.
Bombes de Villiers. 31 D. 1857. (**2**, 211.)* (*Sardinia.*)
Brioschi e figlio. 16 Jl. 1881. II, **12**, 649 (**26**, 199).
Buz frères. 15 Mr. 1878. II, **9**, 120 (**19**, 475).
de Franchi. 18 My. 1878. II, **9**, 307 (**20**, 162).
Ghigliano. 30 S. 1858. (**2**, 138.)* (*Sardinia.*)
Wagner. 27 S. 1879. II, **10**, 625 (**22**, 325)—Ex. **11**, 684 (**24**, 285); **12**, 893 (**26**, 443).
advertising. **Charruy.** 9 D. 1874. II, **5**, 599 (**15**, 208), pl. 144.
amorphous phosphorus. **de Medici.** 30 Je. 1857. (**1**, 418.)* (*Sardinia.*)
and cigarette paper combined. **St. Supery.** 2 Ag. 1867. I, **4**, 249 (**7**, 389). Ad. **5**, 355 (**8**, 426)—Ex. **5**, 394 (**8**, 465).
and cigarette paper package. **Roca.** 16 Ja. 1879. II, **10**, 10 (**21**, 210).
arranging machine for dipping. **Salvadori ed al.** 31 Mr. 1865. I, **2**, 96 (**6**, 80), pl. 19.
block with friction surface. **Société des allumettes Caussemille Jeune et Cie et Roche et Cie.** 19 Je. 1880. II, **11**, 406 (**24**, 7), pl. 123.
box. *See also* Advertising.
— **Abbono e Romagna.** 15 D. 1877. II, **8**, 721 (**19**, 311), pl. 192.
— **Aducci e Broglio.** 16 Jl. 1881. II, **12**, 644 (**26**, 194).
— **Aichino.** 3 Ja. 1881. II, **12**, 495 (**26**, 45), pl. 123. Ad. **12**, 876 (**26**, 426), pl. 226.
— **Brämer.** 2 Mr. 1881. II, **12**, 149 (**25**, 199), pl. 34.
— **Bria.** 28 Ag. 1878. II, **9**, 532 (**20**, 367), pl. 162—Ex. **10**, 617 (**22**, 317).
— **Calvet.** 28 O. 1878. II, **9**, 657 (**21**, 12), pl. 192.
— **Cremonesi.** 25 Ja. 1878. II, **9**, 31 (**19**, 386), pl. 9.
— **Danesi.** 11 My. 1878. II, **9**, 271 (**20**, 126).
— **Dottorini e de Martino.** 29 O. 1872. II, **3**, 486 (**12**, 386), pl. 110.
— **Ghezzi.** 30 N. 1870. II, **1**, 397 (**10**, 397), pl. 101.
— **Haussmann.** 6 Je. 1870. II, **1**, 238 (**10**, 238), pl. 66.
— **Lavaggi e figlio.** 25 Mr. 1879. II, **10**, 147 (**21**, 347), pl. 43.
— **de Medici.** 25 Ja. 1878. II, **9**, 25 (**19**, 380).
— **Merlin.** 14 D. 1872. II, **3**, 549 (**12**, 449), pl. 141.
— **Merlin.** 14 D. 1872. II, **3**, 550 (**12**, 450), pl. 137—Ex. **6**, 669 (**16**, 437).
— **Merlin.** 5 Jl. 1875. II, **6**, 349 (**16**, 117), pl. 78.
— **Olive.** 25 S. 1880. II, **11**, 655 (**24**, 256), pl. 190. Ad. **11**. 668 (**24**, 269), pl. 193.
— **Patella.** 27 S. 1879. II, **10**, 614 (**22**, 314), pl. 167—Ex. **11**, 711 (**24**, 312).
— **Petito.** 22 Mr. 1876. II, **7**, 132 (**17**, 84), pl. 28.
— **Société Anonyme de l'imprimerie Marseillaise.** 9 N. 1881. II, **12**. 993 (**27**, 43), pl. 267.
— **Società Victor Four et Compagnie.** 17 Jl. 1869. I, **6**, 287 (**9**, 303), pl. 95.
— filler and register. **Bruyet.** 22 F. 1876. II, **7**, 77 (**17**, 29), pl. 21.
— machine. **Connolly.** 15 F. 1880. II, **11**, 64 (**23**, 165), pls. 19, 20, 21, 23.
— manufacture. **Goumand.** 31 D. 1881. II, **12**, 1189 (**27**, 239), pls. 334, 335.
— stereoscopic. **Fontaine.** 2 My. 1870. II, **1**, 190 (**10**, 190), pl. 46.
composition. **Baschiera e Comp.** 20 Ap. 1877. II, **8**, 219 (**18**, 309).
— **Halimbourg.** 30 D. 1861. **3**. 175.*
— **Pierini.** 25 S. 1865. I, **2**, 256 (**6**, 240)—Ex. 4, 297 (**7**, 437).

MATCH—continued.
cutting. **Pernet-Jouffroy.** 31 Ag. 1877. II, **8**, 519 (**19**, 109), pl. 130. Ad. **11**, 83 (**23**, 184), pl. 31.
— machine. **Tabacco e Comp.** 28 Jl. 1860. 10.* (*Sardinia.*)
dipping machine. **Lavaggi.** 3 Mr. 1873. II, **4**, 102 (**13**, 82), pl. 28.
— **Perrier.** 17 S. 1875. II, **6**, 478 (**16**, 246), pl. 110.
— **Schiavini.** 27 Ag. 1879. II, **10**, 565 (**22**, 265), pl. 158.
galvanized. **Pini.** 20 Ag. 1869. I, **6**, 320 (**9**, 336).
heading. **Dellachi e Bennati.** 4 Ja. 1872. II, **3**, 3 (**11**, 403), pl. 2.
manufacture. **Bell ed al.** 30 D. 1864. I, **1**, 540 (**5**, 477), pl. 90.
— **Gailhard.** 15 Mr. 1878. II, **9**, 135 (**19**, 490), pl. 35.
— **Perrier.** 11 F. 1875. II, **6**, 54 (**15**, 322), pl. 12.
— **Walch.** 30 N. 1872. II, **3**, 526 (**12**, 426), pl. 125.
— machine. **Perrier.** 2 Ja. 1867. I, **4**, 17 (**7**, 156), pls. 4–6.
— register. **Fermis e Chauvin.** 11 Ja. 1873. II, **4**, 13 (**12**, 493), pl. 5.
— safety. **Cavallini.** 6 N. 1869. I, **6**, 403 (**9**, 419), pl. 133.
stick cutting machine. **Mollard et Cauvin.** 30 S. 1861. (**3**, 91.)*
stick machine. **Arienta.** 30 Je. 1861. (**3**, 71.)*
— **Lavalée père et fils.** 31 D. 1861. (**3**, 211.)*
stick preparing. **Camagni.** 24 Mr. 1877. II, **8**, 142 (**18**, 232), pls. 39, 40.
wood sawing. **Rocco.** 30 Je. 1855. (**1**, 11.)* (*Sardinia.*)

MATTRESS, cat-tail. **Maggi.** 14 O. 1880. II, **11**, 715 (**24**, 316).
cork. **de Harilaoz.** 26 Mr. 1880. II, **11**, 186 (**23**, 287.)
elastic. **Volonté.** 21 Mr. 1874. II, **5**, 110 (**14**, 219), pl. 22.
— **Baumberger.** 30 Ap. 1877. II, **8**, 232 (**18**, 322), pl. 64.
— **Flandini.** 30 S. 1862. (**3**, 289.)*
— **Machenaud de Laterière.** 30 Je. 1859. (**2**, 242.)* (*Sardinia.*)
— **Pendola.** 2 S. 1868. I, **5**, 316 (**8**, 386), pl. 94.
— **Reviglio.** 30 Je. 1858. (**2**, 78.)* (*Sardinia.*)
, spring. **Boulan.** 31 Mr. 1858. (**2**, 54.)* (*Sardinia.*)
— **Carré.** 7 O. 1865. I, **2**, 258 (**6**, 242), pl. 73.
— **Charlton e Dugdale.** 25 My. 1878. II, **9**. 322 (**20**, 177), pl. 88.
— **Costa.** 10 Ag. 1868. I, **5**, 263 (**8**, 333), pl. 80.
— **Costa.** 5 S. 1878. II, **9**, 551 (**20**, 406), pl. 171.
— **Désumeur.** 1 O. 1864. I, **1**, 448 (**5**, 385), pl. 48.
— **Dupuy.** 10 S. 1867. I, **4**, 307 (**7**, 447), pl. 95.
— **Elli.** 16 Ag. 1871. II, **2**, 264 (**11**, 186), pl. 56.
— **Erste œsterreichische Thüren-, Fenster-, und Fussboden-Fabriks-Gesellschaft.** 27 Ag. 1880. II, **11**, 586 (**24**, 187), pl. 168.
— **Festa.** 20 Ja. 1880. II, **11**, 33 (**23**, 134), pl. 12.
— **Frediani.** 22 O. 1874. II, **5**, 490 (**15**, 99), pl. 113—Ex. **6**, 580 (**16**, 348).
— **Gambari.** 22 Mr. 1881. II, **12**, 214 (**25**, 264), pl. 51.
— **Gardner.** 28 N. 1873. II, **4**, 568 (**14**, 48), pl. 156.
— **Grand-Chavin.** 24 D. 1874. II, **5**, 622 (**15**, 231), pl. 150.
— **Hock, Hock, Anthony et Allègre.** 3 Je. 1878. II, **9**, 348 (**20**, 203), pl. 97.
— **Jeantin.** 30 S. 1855. (**1**, 76.)* (*Sardinia.*)
— **Lagomarsino.** 18 Jl. 1878. II, **9**, 456 (**20**, 311), pl. 132.
— **Lanier.** 12 F. 1873. II, **4**, 68 (**13**, 48), pl. 19.
— **Massé.** 30 Je. 1863. (**4**, 33)*—Ex. I, **1**, 378 (**5**, 315).
— **da Nova Santino e Compagnia.** 21 Ag. 1873. II, **4**, 409 (**13**, 389). Ad. **5**, 376 (**14**, 485), pl. 88.
— **Quartara e Fornara.** 25 Ap. 1878. II, **9**, 240 (**20**, 95), pl. 59.
— **Richetta.** 30 S. 1863. (**4**, 92.)*
— **Richetta.** 18 My. 1872. II, **3**, 207 (**12**, 107), pl. 59—Ex. **8**, 406 (**18**, 496).
— **Richetta.** 28 F. 1880. II, **11**, 100 (**23**, 201), pl. 37.
— **Socci.** 26 Je. 1871. II, **2**, 198 (**11**, 120), pl. 43.
— **Volonté.** 20 Mr. 1881. II, **12**, 224 (**25**, 274), pl. 54.
-spring. **de Bernardi.** 29 Ag. 1881. II, **12**, 175 (**26**, 325), pl. 200.

MATTRESS-spring—continued.
— **Biraghi.** 27 O. 1873. II, **4**, 523 (**14**, 3), pl. 146.
— **Dupasquier.** 28 Jl. 1850. 9.* (*Sardinia.*)
— **Ghibellini.** 25 Ag. 1869. I, **6**, 326 (**9**, 342), pl. 110.
— **Mayr.** 7 Jl. 1871. II, **2**, 204 (**11**, 126), pl. 46. Ad. **2**, 434 (**11**, 356), pl. 93.
— **Pizzi.** 12 Ja. 1880. II, **11**, 5 (**23**, 106), pl. 1.

MEASURE. *See also* Pen, Pencil.
capacity. **Mure fratelli.** 31 Mr. 1863. (**4**, 5.)*
— graduated. **Opessi.** 21 Ap. 1875. II, **6**, 187 (**15**, 455).
invariable. **Mure.** 1 Ap. 1864. I, **1**, 74 (**5**, 10), pl. 8.
linear. **Holmstrom.** 15 Mr. 1878. II, **9**, 128 (**19**, 483), pl. 34.
— **Veroni.** 30 Je. 1861. (**3**, 38.)*
military. **Mure fratelli.** 21 D. 1862. (**3**, 398)*—Ex. I, **1**, 76 (**5**, 12).

MEASURER. *See* Gas flame, Grain.

MEASURING apparatus. **Tavan.** 15 Ap. 1882. II, **13**, 330 (**28**, 102), pl. 88.
instrument. **Meardi.** 24 S. 1881. II, **12**, 863 (**26**, 413), pl. 229.
— **Pescetto.** 22 Je. 1870. II, **1**, 255 (**10**, 255), pl. 65.
— angle. **Malerba-Guerrieri.** 15 D. 1874. II, **5**, 611 (**15**, 220), pl. 146.
— — electric regulator. **Grede.** 9 F. 1881. II, **12**, 73 (**25**, 123).
— curve. **Casiraghi.** 16 Ag. 1877. II, **8**, 476 (**19**, 66), pl. 123.
— distance. **Cerebotani.** 27 Ja. 1882. II, **13**, 53 (**27**, 325), pl. 14.
— — **Macrometer Company Limited.** 20 N. 1880. II, **11**, 824 (**24**, 425), pl. 237.
— — **Morici.** 26 Mr. 1880. II, **11**, 171 (**23**, 272), pl. 54.
— — **Roksandic.** 20 F. 1880. II, **11**, 78 (**23**, 179), pl. 30.
— — **Sapia.** 30 S. 1861. (**3**, 116.)*
— — **Weyer.** 20 Mr. 1880. II, **11**, 157 (**23**, 258), pl. 50.
— map. **Pangaert.** 25 F. 1881. II, **12**, 126 (**25**, 176), pl. 30.
line, approximating weight of cattle. **Baldini.** 4 Ja. 1869. I, **6**, 2 (**9**, 18), pl. 1.

MEAT biscuit. **Coleman.** 24 My. 1869. I, **6**, 208 (**9**, 224).
chopper. **Benardi.** 10 Jl. 1871. II, **2**, 214 (**11**, 136), pl. 48.
— **Bianchi e Boffa.** 31 Mr. 1862. (**3**, 246)*—Ex. I, **1**, 109 (**5**, 45).
— **Velati.** 26 Ja. 1881. II, **12**, 16 (**25**, 66), pl. 3.
chopping machine. **Fonderia e fabbrica di utensili in ferro smaltato.** 18 Ja. 1882. II, **13**, 31 (**27**, 303), pl. 9.
extract, frog's. **Ferrari-Bardile.** 11 Ap. 1874. II, **5**, 148 (**14**, 257).

MEDICAL bandage, etc., manufacture. **Laurys.** 12 O. 1866. I, **3**, 220 (**7**, 46), pl. 65—Ex. **5**, 131 (**8**, 201).

MEDICATED air-bath. **Medici.** 11 My. 1881. II, **12**, 389 (**25**, 439), pl. 96.

MEDICINE capsule. **Debiaque.** 15 Ja. 1877. II, **8**, 12 (**18**, 102), pl. 2.
dropper. **Bravais et Cie.** 12 D. 1879. II, **10**, 824 (**23**, 24), pl. 231.
pneumatic apparatus. **Medici.** 29 My. 1877. II, **8**, 309 (**18**, 399), pl. 84.
to internal organs, instrument for conveying. **Laforgue.** 20 Mr. 1869. I, **6**, 101 (**9**, 117), pl. 34.

MELODEON and automatic playing attachment. **Chinnock e Bennet.** 28 Ap. 1880. II, **11**, 262 (**23**, 363), pl. 78.
tuning. **Procopé.** 30 Mr. 1873. II, **4**, 160 (**13**, 140), pl. 45.

MELTING and casting iron and steel under pressure. **Whitworth.** 30 Jl. 1866. I, **3**, 181 (**7**, 7), pl. 56.
furnace. **Howatson.** 11 Ap. 1874. II, **5**, 151 (**14**, 260), pl. 33.

MERCURY engine. **Russo ed al.** 22 Jl. 1867. I, **4**, 243 (**7**, 383), pl. 76.
extracting. **Berrens.** 28 Mr. 1875. II, **6**, 124 (**15**, 392), pl. 25.
furnace. **Bianchi.** 11 Mr. 1872. II, **13**, 186 (**27**, 458), pl. 52.
oxide submarine coating. **Vetere.** 27 Ap. 1871. II, **2**, 119 (**11**, 41)—Ex. **3**, 300 (**12**, 200).

METAL articles, manufacture. **Haegele.** 24 S. 1881. II, **12**, 843 (**26**, 393).
box. **Tardy.** 27 S. 1879. II, **10**, 630 (**22**, 330), pl. 171—Ex. **11**, 760 (**24**, 361).
— without soldering. **Pettier.** 30 Je. 1861. (**3**, 52.)*
bronzing. **Bottger.** 23 Ag. 1878. II, **9**, 523 (**20**, 378).
casting. **Rives.** 19 N. 1867. I, **4**, 378 (**8**, 19), pl. 117.
cleaning compound. **de Laiti.** 27 Je. 1877. II, **8**, 366 (**18**, 456).
coating forks and spoons. **Krupp.** 25 Mr. 1879. II, **10**, 150 (**21**, 350).
coating on glass. **Luckner.** 31 Mr. 1879. II, **10**, 182 (**21**, 382).
coating on pottery. **de Lavenant.** 31 D. 1863. (**4**, 141)*—Ex. I, **1**, 368 (**5**, 305).
coating on ships' hulls. **Henwood.** 24 D. 1879. II, **10**, 848 (**23**, 48), pl. 238.
cutting. **Trevisan.** 27 Je. 1876. II, **7**, 307 (**17**, 259). Ad. **7**, 578 (**18**, 31), pl. 151.
— and grinding. **Tilghman.** 26 Je. 1871. II, **2**, 192 (**11**, 114), pl. 45—Ex. **4**, 258 (**13**, 238); **8**, 155 (**18**, 245).
— drilling, and grinding. **Tilghman.** 21 D. 1872. II, **3**, 563 (**12**, 463)—Ex. **7**, 12 (**16**, 464).
— machine. **Baville e Greenwood.** 9 Ap. 1877. II, **8**, 177 (**18**, 267), pl. 50—Ex. **9**, 290 (**20**, 145).
— — **Flagler.** 25 Jl. 1877. II, **8**, 431 (**19**, 21), pl. 114.
— — **Trippa ed al.** 29 Ag. 1867. I, **4**, 298 (**7**, 438), pl. 93. Ad. **4**, 364 (**8**, 5).
dissolving. **Neukirch.** 16 Ja. 1879. II, **10**, 5 (**21**, 205), pl. 1.
drill. **Baecker.** 6 Jl. 1877. II, **8**, 371 (**18**, 461), pl. 101.
drilling machine. **Huguet.** 28 Mr. 1873. II, **4**, 154 (**13**, 134), pl. 45—Ex. **7**, 155 (**17**, 107).
extracting. **Evans.** 15 Ap. 1882. II, **13**, 328 (**28**, 100), pl. 86.
— **Payen e Roux.** 23 Ap. 1873. II, **4**, 195 (**13**, 175).
— by electrolysis. **Marchese.** 23 Jl. 1881. II, **12**, 669 (**26**, 219). Ad. **13**, 273 (**28**, 45).
— from ore. **Elmore.** 29 Ag. 1881. II, **12**, 769 (**26**, 319).
— — **Engel.** 8 Ag. 1874. II, **5**, 389 (**14**, 498).
foil manufacture. **Wimshurst et Trueman.** 30 Je. 1859. (**2**, 237.)* (*Sardinia.*)
heating furnace. **Krupp.** 30 S. 1875. II, **6**, 525 (**16**, 293), pl. 129.
malleable and ductile rendering. **Ghesquière.** 31 Mr. 1860. (**2**, 332.)* (*Sardinia.*)
melting. **Société génerale de métallurgie.** 28 Mr. 1873. II, **4**, 142 (**13**, 122), pl. 37.
— furnace. **Civita.** 27 Je. 1876. II, **7**, 303 (**17**, 255), pl. 71.
— — **Espinasse.** 22 Jl. 1876. II, **7**, 379 (**17**, 331), pl. 92.
— — **Fletcher.** 30 Mr. 1878. II, **9**, 178 (**20**, 33), pl. 45—Ex. **12**, 193 (**25**, 243).
— — **Grosrenaud.** 31 Mr. 1856. (**1**, 164.)* (*Sardinia.*)
— — **Lepet, fils aîné, frères et Cie.** 8 Ag. 1874. II, **5**, 390 (**14**, 499), pl. 87.
— — **Piat.** 8 F. 1878. II, **9**, 60 (**19**, 415), pl. 15.
ornamenting. **Nerini.** 28 Ag. 1877. II, **8**, 517 (**19**, 107).
oxide extracting by ammonium carbonate. **Wegelin, Hübner e Pollacsek.** 16 Ja. 1879. II, **10**, 6 (**21**, 206), pl. 3. Ad. **10**, 429 (**21**, 206).
oxide reducing. **Chenot.** 30 Je. 1857. (**1**, 440.)* (*Sardinia.*)
pipe cutting. **Audonnet.** 27 Ag. 1874. II, **5**, 426 (**15**, 34), pl. 99.
pipe machine. **Fox.** 26 Ja. 1872. II, **3**, 25 (**11**, 425), pl. 6.
— **Quadling e May.** 31 Ja. 1874. II, **5**, 37 (**14**, 146), pl. 5.
pipe stretching and compressing. **Gruson.** 7 D. 1878. II, **9**, 756 (**21**, 111), pl. 228.
protecting. **Vitali.** 30 Ja. 1865. I, **2**, 29 (**6**, 13).
— coating. **Daumesnil.** 15 S. 1879. II, **10**, 606 (**22**, 306).
— compound. **Vivien fratelli.** 13 N. 1871. II, **2**, 402 (**11**, 324).
— paint. **Gerenzani.** 20 Ap. 1872. II, **3**, 171 (**12**, 71).
recasting furnace. **Ellershausen.** 1 Je. 1868. I, **5**, 162 (**8**, 232), pl. 41.
reducing furnace. **Thiollier et Laurent.** 9 Jl. 1879. II, **10**, 436 (**22**, 136).

METAL—continued.
refining. **Webster.** 30 Je. 1873. II, **4**, 314 (**13**, 294), pl. 82.
reuovating liquid. **Wilmant e Comp.** 30 Je. 1862. (**3**, 279.)*
rolling. **Bagnall.** 7 Ag. 1875. II, **6**, 413 (**16**, 181), pl. 91.
— **New York Hamburger Gummiwaaren Company.** 29 Ag. 1881. II, **12**, 776 (**26**, 336).
— mill. **Pion.** 31 Ag. 1876. II, **7**, 426 (**17**, 378), pl. 106.
— — **Sartoris.** 31 Ja. 1873. II, **4**, 47 (**13**, 27), pl. 1.
— — **Scarron.** 14 O. 1873. II, **4**, 491 (**13**, 471), pl. 137.
sawing, grinding, and polishing. **Gay.** 27 My. 1874. II, **5**, 250 (**14**, 359), pl. 54.
soldering. **Alvigini e Iafrate.** 26 Je. 1877. II, **8**, 349 (**18**, 439).
— composition. **Julien.** 29 Ja. 1881. II, **12**, 31 (**25**, 81).
spiral spring manufacture. **Jenkins.** 31 Mr. 1880. II, **11**, 198 (**23**, 299), pls. 58, 59.
sponge uniting. **Chenot.** 30 Je. 1857. (**1**, 441.)* (*Sardinia.*)
stamping. **Smith** 30 D. 1876. II, **7**, 629 (**18**, 82), pl. 161.
— machine. **Roselli.** 14 S. 1872. II, **3**, 418 (**12**, 318), pl. 101.
sulphide treatment. **Spence.** 20 Mr. 1880. II, **11**, 164 (**23**, 265).
working, tubular pieces. **Woodbridge.** 19 Ja. 1873. II, **4**, 21 (**13**, 1), pl. 4.
METALLIC artificial plants, manufacture. **Ceruti.** 23 Jl. 1868. I, **5**, 250 (**8**, 320).
fastening. **Villa.** 19 N. 1869. I, **6**, 422 (**9**, 438), pl. 138. Ad. II, **1**, 285 (**10**, 285).
ornamentation on paper, thread, wood, metal, plaster, glass, leather, hides, cloth. **Jacob.** 9 Jl. 1879. II, **10**, 455 (**22**, 155).
wheel. **Testa e Tedeschi.** 27 My. 1879. II, **10**, 304 (**22**, 4), pl. 82.
METALLURGIC furnace. **Forbes.** 15 D. 1877. II, **8**, 731 (**19**, 321), pl. 196.
— **Henning.** 11 O. 1870. II, **1**, 374 (**10**, 374), pl. 97.
— **Meteaf** (*for* **Metcalf**). 24 Ap. 1870. II, **1**, 172 (**10**, 172), pl. 43.
— **Ponsard.** 17 Je. 1870. II, **1**, 249 (**10**, 249), pl. 63. Ad. **3**, 82 (**11**, 482), pl. 24.
— **Ségnin.** 11 My. 1877. II, **8**, 269 (**18**, 359), pl. 76. Ad. **9**, 656 (**21**, 11), pl. 204.
— **Société anonyme des mines du Rhin.** 19 Je. 1877. II, **8**, 347 (**18**, 437), pl. 95.
— and tools. **Yates.** 22 D. 1866. I, **5**, 436 (**9**, 7), pl. 130.
structure. **Dowson.** 31 D. 1863. (**4**, 177)*—Ex. I, **1**, 140 (**5**, 76).
METER. *See* Electric current, Gas, Liquid.
METRONOME. **Carnegie.** 18 D. 1865. I, **2**, 334 (**6**, 318), pl. 105—Ex. **4**, 127 (**7**, 267).
MICROPHONE. **Berliner.** 15 F. 1880. II, **11**, 68 (**23**, 169), pl. 24.
Crossley. 28 My. 1881. II, **12**, 458 (**26**, 8), pl. 116.
Jacobson. 26 Ag. 1881. II, **12**, 766 (**26**, 316), pl. 198.
de Locht. 15 S. 1879. II, **10**, 604 (**22**, 304), pl. 168. Ad. **10**, 730 (**22**, 430), pl. 200.
Pianta. 21 D. 1881. II, **12**, 1134 (**27**, 184), pl. 320.
de Wreder. 6 S. 1880. II, **11**, 622 (**24**, 223), pl. 179.
MICROSCOPE jewel. **Dagron.** 31 Mr. 1861. (**3**, 8.)*
revolver. **Chouippe.** 30 Je. 1861. (**3**, 76.)*
silk chrysalis. **Malzac.** 24 My. 1876. II, **7**, 250 (**17**, 202), pl. 58.
slide. **Langlois.** 1 Je. 1868. I, **5**, 168 (**8**, 238), pl. 46.
MIDDLINGS purifier. **Bereiter.** 2 Mr. 1881. II, **12**, 148 (**25**, 198), pl. 39.
— **Besser.** 9 N. 1881. II, **12**, 996 (**27**, 46), pl. 271.
— **Buhlmann.** 12 Ja. 1880. II, **11**, 8 (**23**, 109), pl. 3—Ex. **12**, 258 (**25**, 308); **13**, 191 (**27**, 463).
— **Buhlmann et Kunz.** 26 Je. 1877. II, **8**, 351 (**18**, 441), pl. 95.
— **Caens.** 23 Ap. 1880. II, **11**, 255 (**23**, 356), pl. 77.
— **Ghigliotti.** 14 Je. 1877. II, **8**, 331 (**18**, 421), pls. 89, 90.
— **Ghigliotti.** 20 S. 1880. II, **11**, 643 (**24**, 244), pl. 187.
— **Ginesi.** 31 D. 1856. (**1**, 305.)* (*Sardinia.*)
— **Girardi fratelli e Bertinetti.** 25 My. 1877. II, **8**, 288 (**18**, 378), pl. 78.
— **Girardi fratelli e Bertinetti.** 27 S. 1879. II, **10**, 649 (**22**, 349), pl. 178.

MIDDLINGS purifier—continued.
— **Haggenmacher.** 28 Jl. 1873. II, **4**, 359 (**13**, 339), pl. 97—Ex. **7**, 449 (**17**, 401); **10**, 665 (**22**, 365).
— **Lallier.** 30 Jl. 1851. 17.* (*Sardinia.*)
— **Massabeau.** 26 Ag. 1875. II, **6**, 452 (**16**, 220), pl. 105.
— **Maurel.** 3 Je. 1875. II, **6**, 283 (**16**, 51), pl. 62—Ex. **9**, 441 (**20**, 296). Ad. **9**, 442 (**20**, 297), pl. 128—Ex. **12**, 609 (**26**, 159).
— **Oberdorfer e König.** 31 D. 1881. II, **12**, 1221 (**27**, 271), pl. 338.
— **Panzat e Villevieille.** 9 N. 1876. II, **7**, 520 (**17**, 473), pl. 131. Ad. **9**, 498 (**20**, 353), pl. 152.
— **Poggioli.** 8 Je. 1878. II, **9**, 357 (**20**, 212), pl. 100—Ex. **12**, 624 (**26**, 174).
— **Rebattu.** 17 N. 1875. II, **6**, 602 (**16**, 370), pl. 144.
— **Smith.** 27 D. 1881. II, **12**, 1171 (**27**, 221), pl. 323.
— **Thompson e Williamson.** 28 Mr. 1879. II, **10**, 162 (**21**, 362), pl. 53. Ad. **11**, 6 (**23**, 107), pl. 4—Ex. **11**, 16 (**23**, 117).
— **Vitiello fratelli.** 12 D. 1878. II, **9**, 764 (**21**, 119), pl. 230.
— **Wegmann.** 30 Mr. 1874. II, **5**, 130 (**14**, 239), pl. 29—Ex. **8**, 119 (**18**, 209).
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Les Ateliers de construction de machines et fonderie de fer. 23 Jl. 1881. II, **12**, 664 (**26**, 214), pls. 170, 171.
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Bavill. 26 Mr. 1867. I, **4**, 92 (**7**, 232), pl. 29.
Brann. 8 Jl. 1878. II. **9**, 424 (**20**, 279), pl. 126.
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Daverio. 25 Ja. 1878. II, **9**, 21 (**19**, 376), pl. 7. Ad. **9**, 127 (**19**, 482), pl. 34.
Davoglio. 29 Ap. 1882. II, **13**, 372 (**28**, 144), pl. 97.
Eichenberger. 28 D. 1865. I, **2**, 341 (**6**, 325), pl. 106.
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Guioni. 31 Mr. 1860. (**2**, 357)*—Ex. I, **1**, 142 (**5**, 78); **1**, 510 (**5**, 447); **4**, 157 (**7**, 297). (*Sardinia.*)
Gujon, Gatti e Agnese. 30 S. 1857. (**1**, 379.)* (*Sardinia.*)
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Martin. 30 Ag. 1879. II, **10**, 586 (**22**, 286), pl. 165.
Mascardi e Comp. 5 Je. 1854. 81.* (*Sardinia.*)
Mayer. 9 Ag. 1869. I, **6**, 313 (**9**, 329), pl. 105.
Milbank. 10 Je. 1880. II, **11**, 362 (**23**, 463), pl. 102—Ex. **12**, 527 (**26**, 77).
Nagel et Kaemp. 15 N. 1877. II, **8**, 649 (**19**, 239), pl. 169. Ad. **9**, 679 (**21**, 34), pl. 209.
Newell. 15 Je. 1878. II, **9**, 379 (**20**, 234), pl. 107.
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Pini. 29 Jl. 1875. II, **6**, 402 (**16**, 170), pl. 89.
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Rey fratelli. 18 Ag. 1875. II, **6**, 435 (**16**, 203), pl. 100.
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— **Massoni ed al.** 26 Mr. 1867. I, **4**, 94 (**7**, 234), pl. 30.
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— **Galli.** 11 Mr. 1882. II, **13**, 187 (**27**, 459), pl. 53.
— **Mechwart.** 25 Mr. 1879. II, **10**, 152 (**21**, 352), pl. 46. Ad. **10**, 462 (**22**, 162).
— **Mechwart.** 28 Mr. 1879. II, **10**, 163 (**21**, 363), pls. 54, 55. Ad. 11, **11**, 635 (**24**, 236); **11**, 636 (**24**, 237)—Ex. **13**, 194 (**27**, 466).
— **Mechwart.** 31 Je. 1882. II, **13**, 86 (**27**, 358), pls. 27, 28. Ad. **13**, 193 (**27**, 465).
— **Nagel et Kaemp.** 15 N. 1877. II, **8**, 650 (**19**, 240), pl. 170. Ad. **12**, 726 (**26**, 276).
— **Seck.** 4 Je. 1881. II, **12**, 497 (**26**, 47), pl. 123.
— adjustment. **Mechwart.** 25 Mr. 1879. II, **10**, 153 (**21**, 353), pl. 51. Ad. **10**, 463 (**22**, 163), pl. 129.
— feed. **Mechwart.** 14 My. 1881. II, **12**, 415 (**25**, 465), pl. 98. Ad. **12**, 747 (**26**, 297), pl. 195; **12**, 850 (**26**, 400), pl. 224.
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— **Treves.** 2 Je. 1870. II, **1**, 228 (**10**, 228), pl. 57.
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— — **Chizzolini e Delachi.** 27 Ag. 1870. II, **1**. 333 (**10**, 333), pl. 86.
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— — **Società Lang e Comp.** 16 F. 1870. II, **1**, 68 (**10**, 68), pl. 10.
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— **Sebold e Neff.** 27 S. 1879. II, **10**, 634 (**22**, 334), pl. 176—Ex. **11**, 625 (**24**, 226); **12**, 847 (**26**, 397).
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Tessié du Motay. 24 D. 1874. II, **5**, 629 (**15**, 238).
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MORDANTING. **Caremali.** 7 O. 1872. II, **3**, 451 (**12**, 351).
MORTAR manufacture. **Scott.** 13 S. 1871. II, **2**, 313 (**11**, 235)—Ex. **5**, 275 (**14**, 384).
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— **Read.** 14 D. 1881. II, **12**, 1103 (**27**, 153), pl. 299.
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— **de Zach.** 28 F. 1882. II, **13**, 155 (**27**, 427), pl. 42.
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— **Daelen.** 30 D. 1876. II, **7**, 616 (**18**, 69), pl. 158.
— **Gillet.** 3 F. 1877. II, **8**, 47 (**18**, 137), pl. 14.
— **Giuseppe.** 28 F. 1871. II, **2**, 55 (**10**, 477), pl. 8.
— **Goubet.** 17 My. 1875. II, **6**, 247 (**16**, 15), pl. 49.
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— **Testa.** 15 D. 1874. II, **5**, 602 (**15**, 211), pl. 146. Ad. **6**, 499 (**16**, 267), pl. 121.
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— **Isola.** 31 Mr. 1856. (**1**, 343.)* (*Sardinia.*)
— **Marie.** 31 Mr. 1856. (**1**, 339.)* (*Sardinia.*)
— **Predavalle.** 30 Je. 1862. (**3**, 262.) Ad. (**1**, 137).*
— **Russo.** 31 Mr. 1856. (**1**, 342.)* (*Sardinia.*)
— **Wolcott e Wood.** 3 S. 1874. II, **5**, 430 (**15**, 39), pl. 101.
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— — **Trotter.** 30 D. 1860. (**2**, 468.)* (*Sardinia.*)
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— **Lifonti.** 31 D. 1862. (**3**, 372.)*
— **Papanti.** 30 D. 1861. (**3**, 164.)*
— **Pepino.** 31 D. 1859. (**2**, 304.)* (*Sardinia.*)
— **Pipino.** 30 S. 1862. (**3**, 295.) Ad. (**1**, 127).*
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— **Krauss.** 25 Mr. 1878. II, **9**, 156 (**20**, 11), pl. 40.
— **Lachèze.** 12 N. 1879. II, **10**, 741 (**22**, 441), pl. 204. Ad. **10**, 852 (**23**, 52), pl. 242; **11**, 841 (**24**, 442), pl. 244.
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— **Villaret.** 14 O. 1879. II, **10**, 685 (**22**, 385), pl. 184.
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— **Nidasio.** 19 Jl. 1865. I, **2**, 194 (**6**, 178), pl. 54.
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— **Digeon.** 23 Jl. 1881. II, **12**, 659 (**26**, 209), pl. 169.
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— **Piazzano.** 30 Ap. 1881. II, **12**, 386 (**25**, 436), pl. 95.
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— — **Daniele.** 20 Je. 1875. II, **6**, 325 (**16**, 93), pl. 71.
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— — key. **Bimboni.** 16 My. 1876. II, **7**, 233 (**17**, 185), pl. 55.
— — piston. **Pelitti.** 30 Je. 1863. (**4**, 46.)*
— — — **Ruggiero e figli.** 20 N. 1876. II, **7**, 555 (**18**, 8), pl. 145.
— — — **Ruggiero e figli.** 15 Mr. 1877. II, **8**, 106 (**18**, 196), pl. 27.
— — — **Santucci.** 31 Jl. 1869. I, **6**, 305 (**9**, 321), pl. 103.
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— pyrophone. **Kastner.** 9 D. 1874. II, **5**, 598 (**15**, 207), pl. 144—Ex. **12**, 3 (**25**, 53).
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— **Springmühl.** 20 O. 1881. II, **12**, 921 (**26**, 471).
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Feno. 6 Je. 1852. 30.* (*Sardinia.*)
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— **Centurini.** 10 Jl. 1869. I, **6**, 279 (**9**, 295), pl. 94.
— **Henrion.** 28 Ag. 1873. II, **4**, 412 (**13**, 392), pl. 109.
— **Ménans et Cie.** 31 Mr. 1862. (**3**, 224.)*
NAIL machine—continued.
— **Nelson.** 8 Je. 1867. I, **4**, 183 (**7**, 323), pl. 64.
— **Parker.** 27 Ag. 1879. II, **10**, 569 (**22**, 269), pls. 160, 161.
— **Postlethwaite.** 11 Ag. 1869. I, **6**, 317 (**9**, 333), pls. 106, 107.
— **Rice.** 5 F. 1870. II, **1**, 52 (**10**, 52), pl. 8.
— **Tassara.** 23 Ag. 1865. I, **2**, 221 (**6**, 205), pl. 58—Ex. **5**, 358 (**8**, 429).
— bronze. **de Luca.** 14 N. 1870. II, **1**, 385 (**10**, 385), pl. 100.
manufacture. **Hertzsch.** 30 Jl. 1881. II, **12**, 714 (**26**, 264), pl. 179.
ship's. **Astolfi.** 30 Je. 1855. (**1**, 208).* (*Sardinia.*)
NAPKIN-FASTENER. **Lefèvre.** 2 My. 1870. II, **1**, 189 (**10**, 189), pl. 48.
NAVIGATING apparatus. **Morino.** 30 Je. 1857. (**1**, 425.)* (*Sardinia.*)
card. **Bono.** 20 Je. 1873. II, **4**, 283 (**13**, 263), pl. 77—Ex. **8**, 698 (**19**, 288).
submarine. **Payerne et Lamiral.** 7 My. 1854. 76.* (*Sardinia.*)
NECKTIE-FASTENER. **Hayem.** 20 F. 1878. II, **9**, 86 (**19**, 441), pl. 23.
Michaux. 8 F. 1878. II, **9**, 70 (**19**, 424), pl. 13.
Piccard. 6 Ap. 1878. II, **9**, 193 (**20**, 48), pl. 50.
Schloss. 8 My. 1869. I, **6**, 184 (**9**, 200), pl. 55.
NEEDLE. *See also* Sewing machine.
Demmer. 11 Je. 1879. II, **10**, 361 (**22**, 61), pl. 96.
case candlestick. **Lanza fratelli.** 11 D. 1875. II, **6**, 649 (**16**, 417), pl. 163—Ex. **7**, 607 (**18**, 60).
pointing by electricity. **Cauderay.** 12 Mr. 1866. I, **3**, 56 (**6**, 382).
threader. **Walcot.** 18 Jl. 1870. II, **1**, 297 (**10**, 297), pl. 72.
NET, fishing. **di Salvatore e Centonze.** II, **3**, 500 (**12**, 400), pl. 119—Ex. **5**, 8 (**14**, 117).
— **Società pella pesca con battelli-vivai.** 20 O. 1871. II, **2**, 349 (**11**, 271), pl. 57.
oyster. **Società per la pesca con battelli-vivai.** 20 O. 1871. II, **2**, 354 (**11**, 176), pl. 76.
NETTING, fly. **Boivin.** 5 Je. 1877. II, **8**, 318 (**18**, 408), pl. 87.
NEWSPAPER, photographic. **Sertorio.** 20 Je. 1875. II, **6**, 324 (**16**, 92).
NICKEL extracting. **Drouin, Dufoure et Devins.** 14 Mr. 1882. II, **13**, 192 (**27**, 464).
— wet process. **Chiadò.** 25 Je. 1866. I, **3**, 154 (**6**, 480).
manufacture. **Axerio.** 31 D. 1858. (**2**, 180.)* (*Sardinia.*)
— **Fleitmann.** 24 F. 1881. II, **12**, 112 (**25**, 162)—Ex. **13**, 131 (**27**, 403).
— **Weston.** 24 D. 1878. II, **9**, 801 (**21**, 156).
ore enriching. **Arnaud.** 15 S. 1879. II, **10**, 609 (**22**, 309).
plating. **Fleitmann.** 25 F. 1881. II, **12**, 120 (**25**, 170)—Ex. **13**, 127 (**27**, 399).
smelting furnace. **Kantorowicz ed al.** 11 Mr. 1865. I, **2**, 70 (**6**, 54), pl. 12.
NIGHT signal. **Scacchi.** 3 Mr. 1869. I, **6**, 77 (**9**, 93). Ad. **6**, 353 (**9**, 369).
soil, apparatus for excavating, preserving, and utilizing. **Liernur ed al.** 25 Je. 1866. I, **3**, 153 (**6**, 479), pl. 44—Ex. **4**, 100 (**7**, 240).
soil separator. **Canier.** 23 Je. 1873. II, **4**, 298 (**13**, 278), pl. 81.
soil treating. **Breyer.** 23 Ap. 1880. II, **11**, 241 (**23**, 342), pl. 70.
— **Chisolm.** 30 S. 1858. (**2**, 149.)* (*Sardinia.*)
NIPPLE-PROTECTOR. **Gomez de Teran.** 28 F. 1871. II, **2**, 52, (**10**, 474), pl. 6.
NITRATE. *See* Potassium.
NITRATES in art, salt replacing. **Druct et Lecoq.** 31 Mr. 1858. (**2**, 67.)* (*Sardinia.*)
NITROGEN peroxide manufacture. **Turpin.** 31 O. 1881. II, **12**, 967 (**27**, 17), pls. 261, 262. Ad. **13**, 315 (**28**, 87).
NITROUS products from sulphuric acid manufacture, utilizing. **Benker et Lasne.** 9 F. 1881. II, **12**, 68 (**25**, 118).
NON-CONDUCTOR. **Nicolet, Gujol et Lafon.** 3 F. 1881. II, **12**, 62 (**25**, 112).
NUMBERING machine. **Bebro.** 24 F. 1881. II, **12**, 116 (**25**, 166), pl. 28.

NUT cracker. **Calvi.** 31 Mr. 1857. (**1**, 361.)* (*Sardinia.*)
— **Lobin fils et Saint-Gorgon.** 29 N. 1875. II, **6**, 612 (**16**, 380), pl. 150.
— **Zalabardo.** 25 Ja. 1881. II, **12**, 10 (**25**, 60), pl. 2.
NUT lock. **Bouchacourt.** 14 Mr. 1868. I, **5**, 43 (**8**, 113), pl. 12.
— **Danischewsky.** 26 N. 1881. II, **12**, 1036 (**27**, 86), pl. 282.
— **Furton.** 31 Mr. 1879. II, **10**, 192 (**21**, 392), pl. 50.
— **Ibbotson.** 8 F. 1878. II, **9**, 50 (**19**, 405), pl. 11.
— **Imperatori e Bulowius.** 7 Ap. 1881. II, **12**, 293 (**25**, 343), pl. 69—Ex. **13**, 284 (**28**, 56).
— **Lucas.** 20 Ag. 1869. I, **6**, 324 (**9**, 310), pl. 105.
— **Montegazza.** 2 My. 1868. I, **5**, 109 (**8**, 179), pl. 25.
— **Mongelous.** 31 D. 1878. II, **9**, 844 (**21**, 199), pl. 247.
— **Paige.** 10 Ap. 1882. II, **13**, 308 (**28**, 80), pl. 83.
machine. **Koch e Buckingham.** 13 S. 1870. II, **1**, 348 (**10**, 348), pl. 89.
— **Le Blanc et Vincent.** 15 N. 1877. II, **8**, 654 (**19**, 244), pl. 171.
— **Postlethwaite.** 11 Ag. 1869. I, **6**, 317 (**9**, 332), pls. 106, 107.
— **Walton e Jones.** 28 Mr. 1873. II, **4**, 145 (**13**, 125), pl. 42.
OAKUM picker. **Latour.** 4 N. 1871. II, **2**, 396 (**11**, 318), pl. 86.
OAR. **Pettini.** 8 My. 1873. II, **4**, 212 (**13**, 192), pl. 57.
substitute. **Minoli.** 20 Ap. 1880. II, **11**, 236 (**23**, 337), pl. 68.
ODOMETER. **Bathias.** 23 Jl. 1868. I, **5**, 249 (**8**, 319), pl. 71. Ad. II, **1**, 57 (**10**, 57), pl. 9.
Ducoux. 25 Je. 1864. I, **1**, 320 (**5**, 256), pls. 36, 37.
Greggi. 31 Jl. 1879. II, **10**, 515 (**22**, 215), pl. 147.
Prosperi. 30 S. 1867. I, **4**, 312 (**7**, 452), pl. 94.
ODORLESS. **Barni.** 9 N. 1864. I, **1**, 495 (**5**, 432), pl. 80.
Bellio. 18 S. 1877. II, **8**, 540 (**19**, 130). Ad. **9**, 325 (**20**, 180).
Bersani. 28 Mr. 1879. II, **10**, 164 (**21**, 364), pl. 53.
Calvo. 30 Je. 1855. (**1**, 56.)* (*Sardinia.*)
Canier. 30 S. 1863. (**4**, 91)*—Ex. I, **1**, 551 (**5**, 488).
Chapusot. 31 D. 1855. (**1**, 109.)* (*Sardinia.*)
Chapusot. 31 Mr. 1857. (**1**, 374.) Ad. (**1**, 20).* (*Sardinia.*)
Checchi. 30 Ap. 1877. II, **8**, 238 (**18**, 328), pl. 67.
Datichy. 30 S. 1855. (**1**, 120.)* (*Sardinia.*)
Desimoni. 30 Je. 1862. (**3**, 287.)*
Forno. 31 Ja. 1876. II, **7**, 38 (**16**, 490).
Galli. 14 Ja. 1876. II, **7**, 19 (**16**, 471), pl. 4.
Garinei. 28 F. 1869. I, **6**, 67 (**9**, 83), pl. 19.
Goetzenbrugger. 23 Ap. 1881. II, **12**, 355 (**25**, 405), pls. 89, 90.
Kolb et de Levenhagen. 30 S. 1863. (**4**, 36.)*
Lampredi. 25 Je. 1864. I, **1**, 322 (**5**, 258), pl. 38—Ex. **6**, 266 (**9**, 282).
Lampredi. 25 Ja. 1865. I, **2**, 19 (**6**, 3), pl. 1.
Liernur. 2 Je. 1868. I, **5**, 185 (**8**, 255), pl. 55.
Liernur. 13 Ap. 1882. II, **13**, 314 (**28**, 86), pls. 83, 84.
Morrocchi. 25 Jl. 1878. II, **9**, 467 (**20**, 322), pl. 136.
Mutua Associazione dei proprietari di case per lo spurgo dei pozzi neri. 24 S. 1875. II, **6**, 508 (**16**, 276), pl. 122.
Ottina. 21 D. 1868. I, **5**, 429 (**8**, 500), pl. 130.
Pasta. 13 Je. 1860.* (*Austria.*)
Pontanari. 19 My. 1875. II, **6**, 258 (**16**, 26), pl. 57—Ex. **7**, 181 (**17**, 133).
Pontanari. 18 Mr. 1879. II, **10**, 132 (**21**, 332), pl. 47—Ex. **11**, 197 (**23**, 298).
Revelli. 30 Je. 1859. (**2**, 241.)* (*Sardinia.*)
Rival. 30 Je. 1855. (**1**, 9.)* (*Sardinia.*)
Sardi ed al. 23 My. 1868. I, **5**, 141 (**8**, 211), pl. 39.
de Simoni. 12 My. 1864. I, **1**, 211 (**5**, 147), pl. 23.
Seren-Rosso. 26 Ap. 1879. II, **10**, 242 (**21**, 442), pl. 70.
Seren-Rosso. 27 Ag. 1880. II, **11**, 589 (**24**, 190), pl. 169.
Telard. 23 F. 1881. II, **12**, 91 (**25**, 141), pl. 22.
Varnaison. 2 S. 1872. II, **3**, 396 (**12**, 296), pl. 98.
Villa-Pernice. 28 Mr. 1870. II, **1**, 122 (**10**, 122), pl. 25—Ex. **3**, 301 (**12**, 201).
Visetti. 31 D. 1856. (**1**, 331.)* (*Sardinia.*)
Visetti. 31 D. 1857. (**2**, 29.)* (*Sardinia.*)
Visetti e Griseri. 30 S. 1856. (**1**, 431.)* (*Sardinia.*)

OÏDIUM destroying compound. **Alciati.** 31 Mr. 1861. (**3**, 15.)*
— **Brambilla.** 31 Mr. 1861. (**3**, 117.)*
— **Claudio.** 29 Ja. 1870. II, **1**, 47 (**10**, 47).
— **Francia.** 31 Mr. 1862. (**3**, 253.)*
— **Grandis.** 30 N. 1877. II, **8**, 694 (**19**, 284).
— **Sabbatini.** 30 Mr. 1870. II, **1**, 137 (**10**, 137).
OIL and alcohol from grain. **Montagna.** 20 Jl. 1870. II, **1**, 307 (**10**, 307).
apparatus, cotton-seed. **Bearzi.** 20 Mr. 1869. I, **6**, 106 (**9**, 122), pl. 26.
bean. **Medica.** 28 S. 1880. II, **11**, 670 (**24**, 272), pl. 194.
beechnut. **Parodi.** 22 Je. 1881. II, **12**, 556 (**26**, 106).
— **Pozzesi e Borel.** 30 N. 1878. II, **9**, 728 (**21**, 83).
bleaching. **Bassi.** 30 Je. 1880. II, **11**, 441 (**24**, 42).
— **Bassi.** 23 My. 1881. II, **12**, 435 (**25**, 485), pl. 107.
burning. **Agnellet.** 12 Mr. 1872. II, **3**, 89 (**11**, 489), pl. 26.
can. **Richter.** 31 D. 1880. II, **11**, 927 (**25**, 28), pl. 262—Ex. **12**, 1038 (**27**, 88).
— **Schelling.** 18 S. 1877. II, **8**, 536 (**19**, 126), pl. 137.
clarifying. **Silvestrini.** 12 Ag. 1875. II, **6**, 426 (**16**, 194), pl. 97.
— **Silvestrini.** 8 F. 1878. II, **9**, 47 (**19**, 402), pl. 11—Ex. **11**, 948 (**25**, 49).
— cotton-seed. **Corridi.** 31 O. 1871. II, **2**, 382 (**11**, 304).
cruciferous. **Neuburger.** 31 Mr. 1856. (**1**, 158.)* (*Sardinia.*)
deodorizing, olive refuse. **Alvigini fratelli e Croxatto.** 14 D. 1881. II, **12**, 1092 (**27**, 142).
extracting. **Cardone ed al.** 27 Ap. 1869. I, **6**, 156 (**9**, 172), pl. 48.
— **Giraud.** 30 S. 1857. (**1**, 456)—Ex. (**1**, 27). Ad. **1**, 45).* (*Sardinia.*)
— **Richardson.** 15 My. 1864. I, **1**, 242 (**5**, 178).
— **Rostand et Cie.** 31 Jl. 1877. II, **8**, 445 (**19**, 35), pl. 116.
— and filtering apparatus. **Marshall.** 31 My. 1864. I, **1**, 272 (**5**, 208), pl. 24.
— and purifying apparatus. **Hirzel.** 20 My. 1869. I, **6**, 199 (**9**, 215), pl. 65—Ex. II, **1**, 275 (**10**, 275).
— apparatus, olive refuse. **Blessich.** 9 Ag. 1879. II, **10**, 546 (**22**, 246), pl. 155.
— bag. **Bargioni.** 26 Ag. 1875. II, **6**, 460 (**16**, 228), pl. 106—Ex. **7**, 484 (**17**, 436).
— bed plate. **Robergeot.** 23 Je. 1881. II, **12**, 572 (**26**, 122), pl. 142.
— by carbon bisulphide and sulphuric acid. **Cruvellier.** 12 Mr. 1868. I, **5**, 15 (**8**, 85).
— centrifugal machine. **Tomas.** 3 D. 1866. I, **3**, 273 (**7**, 99).
— from anthracite, bitumen, lignite, etc. **Massara.** 24 Ja. 1868. I, **5**, 9 (**8**, 79).
— from bones. **Coen.** 3 D. 1866. I, **3**, 259 (**7**, 85), pl. 70.
— from cistern dregs. **Deperais.** 9 O. 1865. I, **2**, 276 (**6**, 260), pl. 79.
— from fruit, seed, etc. **Pattison.** 13 Ap. 1869. I, **6**, 130 (**9**, 146), pl. 35.
— from grain. **Boizeau.** 12 Mr. 1866. I, **3**, 53 (**6**, 379), pl. 15—Ex. **4**, 111 (**7**, 251).
— from grape refuse. **Molco fratelli.** 31 Jl. 1880. II, **11**, 530 (**24**, 131).
— from oranges, etc. **Grillo.** 19 Ja. 1855. 108.* (*Sardinia.*)
— from pine. **Pastorelly.** 21 Mr. 1865. I, **2**, 75 (**6**, 59), pl. 12—Ex. **3**, 93 (**6**, 419).
— from resin. **Baggioli.** 30 S. 1861. (**3**, 119.)*
— from spent substances. **Torassa.** 6 F. 1866. I, **3**, 21 (**6**, 347), pl. 5. Alt. **3**, 236 (**7**, 62).
— from textiles. **Scaife.** 7 N. 1874. II, **5**, 534 (**15**, 143), pl. 125.
— illuminating. **Campari.** 27 Je. 1881. II, **12**, 581 (**26**, 131).
— olive. **Besana.** 14 D. 1881. II, **12**, 1110 (**27**, 160).
— residual. **Cruvellier.** 7 Jl. 1869. I, **6**, 253 (**9**, 269).
fat and glue apparatus, extracting from old bones and leather, manufacturing Liebig's extract of beef and extracting same substances from fresh beef bones, and treatment of materials used, by steam. **Ferrari.** 11 D. 1868. I, **5**, 400 (**8**, 471), pl. 115.
for wool spinning. **Carola.** 13 D. 1867. I, **4**, 396 (**8**, 37)—Ex. **6**, 12 (**9**, 28).

OIL for wool spinning—continued.
— **Galoppo ed al.** 24 Jl. 1867. I, **4**, 246 (**7**, 386). Ad. **4**, 426 (**8**, 67).
grape seed. **Rovighi** 30 Je. 1859. (**2**, 220.)* (*Sardinia.*)
grape stone, purifying. **Pelacani.** 6 Ja. 1855. 106.* (*Sardinia.*)
holder, submarine inflammable. **Bianchini.** 31 Ja. 1873. II, **4**, 48 (**13**, 28), pl. 11.
hydrocarbon, treating. **Young.** 11 Mr. 1872. II, **3**, 77 (**11**, 477), pl. 22—Ex. **4**, 609 (**14**, 89).
illuminating, manufacture. **Krafft.** 30 Je. 1855. (**1**, 63.)* (*Sardinia.*)
— **Noblée.** 30 Je. 1860. (**2**. 389.)* (*Sardinia.*)
manufacture. **Chalybaeus.** 17 Jl. 1868. I, **5**, 240 (**8**, 310), pl. 72.
— **Gouvrier e Boursier.** 7 Je. 1880. II, **11**, 359 (**23**, 460), pls. 101, 102.
— **Gray.** 23 Ap. 1880. II, **11**, 242 (**23**, 343), pl. 71.
— carbon bisulphide vapor absorbing. **Ckiandi.** 26 Ap. 1879. II, **10**, 241 (**21**, 441), pl. 69. Ad. II, **11**, 772 (**21**, 441), pl. 224.
— cotton-seed. **Parigi.** 18 Jl. 1871. II, **2**, 224 (**11**, 146).
— for shamoying. **Butard.** 14 N. 1874. II, **5**, 556 (**15**, 165).
mill refuse treating. **Andrieu.** 20 Mr. 1877. II, **8**, 147 (**18**, 237). Ad. **8**, 210 (**18**, 30).
mill, straining frame. **Donatone.** 13 Ap. 1869. I, **6**, 127 (**9**, 143), pl. 44.
mill, vertical. **Percivale.** 5 Ja. 1869. I, **6**, 13 (**9**, 29).
mineral, extracting from peat. **Richard.** 31 D. 1855. (**1**, 163.)* (*Sardinia.*)
olive, manufacture. **Raynaud.** 20 N. 1880. II, **11**, 817 (**24**, 418)—Ex. **12**, 1155 (**27**, 205).
paint. **Braam e Stiess.** 26 F. 1879. II, **10**, 95 (**21**, 295).
palm. **Daninos.** 16 S. 1878. II, **9**, 563 (**20**, 418).
press. **Anselmi.** 16 Je. 1868. I, **5**, 201 (**8**, 271), pl. 63.
— **Behne.** 10 Ap. 1879. II, **10**, 205 (**21**, 405), pl. 61.
— **Cerretelli.** 24 My. 1869. I, **6**. 212 (**9**, 228), pl. 66.
— **Cerretelli.** 29 Jl. 1871. II, **2** 235 (**11**, 157), pl. 52.
— **Galizia.** 23 My. 1865. I, **2**, 143 (**6**, 127), pl. 31.
— **Holt.** 20 Ag. 1880. II, **11**, 577 (**24**, 178), pl. 163.
— **Lombardo.** 19 Jl. 1875. II, **6**, 382 (**16**, 150), pl. 84.
— **de Morsier e Mengotti.** 15 S. 1873. II, **4**, 437 (**13**, 417), pl. 121.
— **de Roseti.** 30 S. 1856. (**1**, 266)—Ex. (, 11).* (*Sardinia.*)
— **Scharpe.** 20 N. 1867. I, **4**, 380 (**8**, 21), pl. 117.
— bag. **Dervieux.** 27 N. 1871. II, **2**, 428 (**11**, 350), pl. 89.
— filter and basket manufacture. **Cioni.** 28 O. 1869. I, **6**. 400 (**9**, 416).
— hydraulic. **Guppy.** 28 My. 1868. I, **5**, 152 (**8**, 222), pl. 40.
— — **Pattison.** 26 My. 1869. I, **6**, 219 (**9**, 235), pl. 65.
— — **Pilella.** 2 Ag. 1865. I, **2** 218 (**6**, 202), pl. 58.
— mat. **Balsano.** 17 Jl. 1868. I, **5**, 223 (**8**, 293), pl. 66.
— — **Garuti.** 31 D. 1880. II, **11**, 946 (**25**, 47).
— — **Guppy e Comp.** 31 My. 1879. II, **10**, 322 (**22**, 22), pl. 90.
— olive. **Monopoli.** 6 Ap. 1881. II, **12**, 281 (**25**, 331), pl. 68.
— sieve. **Binetti.** 12 Jl. 1879. II, **10**, 470 (**22**, 170), pl 125.
— — **Guppy e Comp.** 16 Ag. 1879. II, **10**, 551 (**22**, 251), pl. 157.
— — **Lindemann.** 26 O. 1880. II, **11**, 750 (**24**, 351), pl. 219.
— — **Luciano e Campo.** 20 O. 1879. II, **10**, 689 (**22**, 389), pl. 186.
— — manipulating way. **Binetti.** 12 Jl. 1879. II, **10**, 471 (**22**, 171), pl. 131.
purifying apparatus. **Herman.** 1 O. 1864. I, **1**, 455 (**5**, 392), pl. 75.
— mineral. **Piccino.** 29 N. 1865. I, **2**, 317 (**6**, 301), pl. 91.
purifying by carbon bisulphide. **Lupieri.** 28 F. 1882. II, **13**, 148 (**27**, 420).
recovering waste. **d'Andrea.** 14 Jl. 1870. II, **1**, 291 (**10**, 291), pl. 72.
refining. **Aurineta.** 30 N. 1878. II, **9**, 729 (**21**, 84).

OIL refining—continued.
— **Howell.** 30 D. 1871. II, **2**, 476 (**11**, 398), pl. 98.
— **Kirkpatrick ed al.** 16 Je. 1868. I, **5**, 202 (**8**, 272).
— and decolorizing. **Hesse fratelli.** 22 Mr. 1873. II, **4**, 125 (**13**, 105), pl. 34.
— essential. **Pagliari.** 3 Mr. 1873. II, **9**, 103 (**13**, 83).
removing from fiber. **Reinfeld.** 24 S. 1864. I, **1**, 432 (**5**, 369) -Ex. **4**, 388 (**8**, 29).
removing from wool. **Puech.** 29 O. 1877. II, **8**, 623 (**19**, 213). Ad. **8**, 680 (**19**, 270).
seed boiler. **Bianchedi.** 3 F. 1877. II, **8**, 46 (**18**, 136), pl. 12.
seed treating apparatus. **Cercione.** 23 Ag. 1878. II, **9**, 519 (**20**. 374), pl. 162.
solidifying **Cazet, Lafaurie, Fossier e Mathey.** 31 D. 1879. II, **10**, 887 (**23**, 87).
tank. **Bizard ed al.** 21 Ja. 1867. I, **4**, 15 (**7**, 154), pl. 3. Ad. **4**, 97 (**7**, 237), pl. 30.
tester. **Rouaix.** 25 Jl. 1878 II, **9**, 464 (**20**, 319), pl. 129.
treating. **Ceresoli e Defilippi.** 30 D. 1856. (**1**, 300.) Ad. (**1**, 17).* (*Sardinia.*)

OILCLOTH manufacture. **Hawksworth.** 1 Ap. 1864. I, **6**, 69 (**5**, 5).

OLIVE and grain mill. **Risso.** 13 F. 1867. I, **4**, 67 (**7**, 206), pl. 23.
boiler. **Bertacchi.** 18 Mr. 1879. II, **10**, 125 (**21**, 325), pl. 44.
crusher. **Capurro.** 31 Mr. 1868. I, **5**, 63 (**8**, 133), pl. 13, Ad. **5**, 216 (**8**, 286), pl. 61.
— **Detti.** 17 S. 1875 II, **6**, 493 (**16**, 261), pl. 121.
— **de Luca.** 16 S. 1878. II, **9**, 556 (**20**, 411), pl. 174.
curing compound. **Migneco.** 16 Ag. 1877. II, **8**, 480 (**19**, 70).
gatherer. **Castagnola.** 9 Mr. 1882. II, **13**, 175 (**27**, 447), pl. 49.
husk drier. **Roth.** 10 Je. 1880. II, **11**, 363 (**23**, 464), pl. 103
mill. **de Morsier e Mengotti.** 31 D. 1874. II, **5**, 654 (**15**, 263), pl. 155.
oil extracting by salt water. **Lupi.** 11 My. 1869. I, **6**, 194 (**9**, 210).
pulping machine. **Mouren.** 31 D. 1856. (**1**, 134.)* (*Sardinia.*)
refuse drying. **Lindemann.** 30 Je. 1880. II, **11**, 453 (**24**, 54), pl. 131.
stone separator. **Fusi.** 7 Mr. 1881. II, **12**, 167 (**25**, 217), pl. 40.
strainer. **Percivale.** 18 Ap. 1865. I, **2**, 127 (**6**, 111), pl. 30—Ex. **5**, 251 (**8**, 321); II, **4**, 336 (**13**, 316).

OMNIBUS. **Bottazzi.** 20 F. 1878. II, **9**, 89 (**19**, 444), pl. 24.
Osculati. 25 N. 1867. I, **4**, 369 (**8**, 10), pl. 115.
Ridoni. 30 Je. 1855. (**1**, 6.)* (*Sardinia.*)

OPAL button manufacture. **Arduino.** 31 D. 1863. (**4**, 152.)*

OPTIC illusions. **Willières.** 30 S. 1863. (**4**, 99.)*
toy. **David.** 7 Jl. 1874. II, **5**, 337 (**14**, 446), pl. 77.

ORANGE rind extract. **Sturge e Hollings.** 14 Ja. 1874. II, **5**, 6 (**14**, 115), pl. 1.

ORDNANCE. **Bassée.** 31 D. 1873. II, **4**, 623 (**14**, 103), pl. 171.
Blakely. 30 S. 1853. (**4**, 93.)*
Brandon. 21 Ag. 1873. II, **4**, 405 (**13**, 385), pls. 108, 109. Ad. **4**, 616 (**14**, 95), pl. 169; **7**, 353 (**17**, 305), pl. 87; **8**, 455 (**19**, 45), pl. 118—Ex. **10**, 483 (**22**, 183). Ad. **11**, 919 (**25**, 20); **11**, 224 (**23**, 325), pl. 64; **12**, 1104 (**27**, 154), pl. 298.
Harding. 7 N. 1874. II, **5**, 546 (**15**. 155), pl. 129.
Haskell. 26 N. 1881. II, **12**. 1032 (**27**, 82), pl. 281.
Krupp. 14 Ja. 1876. II, **7**, 22 (**16**, 474), pl. 3—Ex. **8**, 34 (**18**, 124).
Krupp. 8 Jl. 1878. II, **9**, 432 (**20**, 287), pl. 128.
Krupp. 19 S. 1878. II, **9**, 575 (**20**, 430), pl. 180.
Krupp. 27 My. 1879. II, **10**, 314 (**22**, 14), pl. 85—Ex. **11**, 297 (**23**, 398).
Lothian. 27 Ap. 1876. II, **7**, 209 (**17**, 161) pl. 48.
Mefford-Mefford. 27 Ja. 1882. II, **13**, 55 (**27**, 327), pl. 15.
Palliser. 23 Ap. 1866. I, **3**, 112 (**6**, 438).
Palliser. 19 Je. 1878. II, **9**. 388 (**20**, 243), pl. 111.
Palliser. 27 S. 1879. II, **10**, 648 (**22**, 348), pl. 178.
Percival ed al. 4 N. 1865. I, **2**, 302 (**6**. 286), pl. 85.
Schultz. 11 Je. 1874. II, **5**, 271 (**14**, 380), pl. 63—Ex. **8**, 277 (**18**, 367); **11**, 488 (**24**, 89).

ORDNANCE—continued.
Whitworth et Hulse. 30 S. 1863. (**4**, 59.)*
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— **Coloney**. 29 D. 1879. II, **10**, 856 (**23**, 56), pl. 243.
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— **Krupp**. 3 D. 1866. I, **3**, 261 (**7**, 87), pl. 74—Ex. II, **3**, 469 (**12**, 369).
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— **Radaelli**. 14 O. 1869. I, **6**, 381 (**9**, 397), pl. 129.
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— **Heberlein e Bandel**. 31 D. 1879. II, **10**, 893 (**23**, 93), pls. 251, 252.
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— **Corrié.** 28 N. 1868. I, **5**, 382 (**8**, 453), pl. 110.
— **Dallot e Rognetta.** 12 Mr. 1874. II, **5**, 95 (**14**, 204), pl. 25—Ex. **8**, 181 (**18**, 271); **11**, 179 (**23**, 280).
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— **Olive.** 25 S. 1880. II, **11**, 655 (**24**, 256), pl. 190. Ad. **11**, 668 (**24**, 269), pl. 193.
— embossing. **Bandier.** 19 Je. 1876. II, **7**, 290 (**17**, 242).
— machine. **Perrier.** 30 Je. 1881. II, **12**, 596 (**26**, 146), pl. 146. Ad. **12**, 1175 (**27**, 225), pl. 329.

PAPER box machine—continued.
— — **Pruner fratelli.** 16 Jl. 1881. II, **12**, 635 (**26**, 185), pls. 157–159.
— manufacture. **Ritter.** 18 Jl. 1878. II, **9**, 455 (**20**, 310), pl. 135.
— — **Rognoni e Pirovano.** 30 Mr. 1877. II, **8**, 158 (**18**, 248), pl. 46.
— — **Wheeler e Jérôme.** 30 S. 1875. II, **6**, 526 (**16**, 294), pl. 129.
collar and cuff, manufacture. **Woodbury.** 29 N. 1865. I, **2**, 314 (**6**, 298), pls. 98, 99.
corn shreds. **Auer di Velsback.** 31 Mr. 1863. (**3**, 429)*—Ex. I, **1**, 507, 509 (**5**, 444, 446).
cutting machine. **Escher Wyss et Cie.** 24 F. 1881. II, **12**, 111 (**25**, 161), pl. 127. Ad. **13**, 84 (**27**, 356), pl. 26.
— **Ferrario.** 15 Mr. 1878. II, **9**, 126 (**19**, 481), pl. 32—Ex. **11**, 323 (**23**, 424). Ad. **12**, 49 (**25**, 99), pl. 12—Ex. **12**, 271 (**25**, 321).
— **Gmelin.** 20 Ag. 1880. II, **11**, 579 (**24**, 180), pls. 154–156—Ex. **12**, 823 (**26**, 375).
— **Goglio ed al.** 1 Je. 1868. I, **5**, 167 (**8**, 237), pl. 46—Ex. II, **2**, 179 (**11**, 101).
— **Rognoni e Pirovano.** 21 Mr. 1877. II, **8**, 132 (**18**, 222), pl. 37.
— **Rossi.** 20 F. 1878. II, **9**, 81 (**19**, 436), pl. 20.
— **Vereinigte Werkstätten zum Bruderhaus.** 16 Ap. 1881. II, **12**, 325 (**25**, 375), pls. 76, 77.
— **Verny.** 14 Ag. 1874. II, **5**, 394 (**15**, 3), pl. 89.
dressing. **Orelle e Pichon.** 18 N. 1879. II, **10**, 755 (**22**, 455), pl. 207. Ad. **11**, 335 (**23**, 436).
drier. **Carissimo.** 12 O. 1866. I, **3**, 234 (**7**, 60), pl. 69.
— **Graffigna.** 12 O. 1880. II, **11**, 705 (**24**, 306), pl. 207.
— **Tixé.** 10 Jl. 1873. II, **4**, 338 (**13**, 318), pl. 89.
— **Trezzi.** 7 Jl. 1871. II, **2**, 200 (**11**, 122), pl. 46.
fire-proof. **Wotherspoon.** 11 My. 1878. II, **9**, 272 (**20**, 127)—Ex. **12**, 407 (**25**, 487).
folding and cutting machine. **Bischof.** 27 Ja. 1882. II, **13**, 471 (**27**, 319), pls. 11, 12.
— **Duncan e Lander.** 12 D. 1872. II, **3**, 539 (**12**, 439), pl. 130.
from pancratium marittimum. **Giordano.** R. G. 21 D. 1862—Ex. I, **1**, 469 (**5**, 406).
incombustible. **Del Corona.** 23 Ap. 1867. I, **4**, 133 (**7**, 273).
machine. **Marsengo.** 31 D. 1861. (**3**, 174.)*
— **Testa.** 16 Jl. 1872. II, **3**, 321 (**12**, 221), pl. 83.
— felt. **Filippi.** 19 S. 1878. II, **9**, 584 (**20**, 439). Ad. **10**, 145 (**21**, 345); **10**, 598 (**22**, 298).
— — joint. **Tealdo.** 20 Je. 1873. II, **4**, 282 (**13**, 262), pl. 73.
— — manufacture. **Muttoni fratelli e cugino.** 30 N. 1878. II, **9**, 734 (**21**, 89).
manufacture. **Cantara e Griseri.** 19 Mr. 1853. 47.* (*Sardinia.*)
— **Cheminot.** 31 Mr. 1861. (**3**, 1.)*
— **Desnos.** 19 Jl. 1875. II, **6**, 385 (**16**, 153), pl. 85—Ex. **12**, 894 (**26**, 444).
— **Dumas.** 31 My. 1869. I, **6**, 223 (**9**, 239).
— **Ferrero.** 30 Je. 1856. (**1**, 170.)* (*Sardinia.*)
— **Ferrero.** 30 S. 1856. (**1**, 270.)* (*Sardinia.*)
— **Hobday.** 20 Ap. 1877. II, **8**, 220 (**18**, 310), pl. 62.
— **Jouffray aîné et fils.** 31 My. 1879. II, **10**, 323 (**22**, 23), pl. 89.
— **Noble.** 22 F. 1873. II, **4**, 90 (**13**, 70).
— **Pariani.** 31 Mr. 1857. (**1**, 349.)* (*Sardinia.*)
— **Picardo.** 7 My. 1868. I, **5**, 127 (**8**, 197), pl. 33.
— **Plachenot de Ballatier.** 31 D. 1857. (**1**, 381.)* (*Sardinia.*)
— **Società per la fabbricazione di pasta di legno.** 22 F. 1876. II, **7**, 71 (**17**, 23), pl. 18.
— **Société pour la fabrication de pâte de bois.** 14 O. 1879. II, **10**, 664 (**22**, 364), pl. 182—Ex. **12**, 446 (**25**, 496).
— **de Sparre.** 30 O. 1880. II, **11**, 766 (**24**, 367), pl. 222.
— **Stuart.** 31 Mr. 1859. (**2**, 217.)* (*Sardinia*)—Ex. I, **2**, 112 (**6**, 96).
— **Terrachini.** 30 S. 1857. (**1**, 497.)* (*Sardinia.*)
— **Voelter.** 22 My. 1866. I, **3**, 131 (**6**, 457), pl. 45, 46—Ex. II, **2**, 240 (**11**, 162).
— **Voelter.** 31 My. 1873. II, **4**, 260 (**13**, 240), pl. 68.

PAPER manufacture—continued.
— by calcium carbonate. **Vita.** 13 Ap. 1864. I, **1**, 107 (**5**, 43).
— from asbestos. **di Baviera.** 30 D. 1876. II, **7**, 636 (**18**, 89).
— from broom. **Fabbi.** 5 Je. 1873. II, **4**, 263 (**13**, 243).
— — straw, etc. **Arondo.** 7 S. 1864. I, **1**, 420 (**5**, 357).
— from distillery refuse. **Branca fratelli.** 26 Je. 1877. II, **8**, 356 (**18**, 446).
— from excrement. **Graziosi.** 8 Je. 1877. II, **8**, 322 (**18**, 412).
— rice straw. **Candiani.** 17 Ja. 1870. II, **1**, 9 (**10**, 9)—Ex. **4**, 8 (**12**, 488).
— — **Candiani.** 12 Mr. 1870. II, **1**, 85 (**10**, 85)—Ex. **4**, 131 (**13**, 111).
— tracing. **Loewenberg et Schoonmacher.** 31 Mr. 1864. (**4**, 164)*—Ex. I, **1**, 217 (**5**, 153); II, **1**, 113 (**10**, 113).
— washing cage. **Jouland.** 31 D. 1863. (**4**, 135.)*
moistener. **Escher Wyss e Comp.** 15 Jl. 1881. II, **12**, 623 (**26**, 173), pl. 152.
postage-indicating letter. **Depierris.** 7 Ap. 1866. I, **3**, 95 (**6**, 421), pl. 32.
preserving. **Vitali.** 30 Ja. 1865. I, **2**, 29 (**6**, 13).
pulp. **Causique.** 31 D. 1861. (**3**, 195).*
— **Croppi e figlio.** 20 Je. 1881. II, **12**, 546 (**26**, 96).
— **Fenerati e Lancia fratelli.** 31 D. 1856. (**1**, 297.)* (*Sardinia.*)
— **Ferrero.** 31 Ag. 1881. II, **12**, 810 (**26**, 360).
— **Francke.** 31 O. 1881. II, **12**, 970 (**27**, 20). Ad. **12**, 1213 (**27**, 263).
— **Giano.** 25 Ap. 1874. II, **5**, 184 (**14**, 293)—Ex. **6**, 158 (**15**, 426); **7**, 148 (**17**, 100).
— **Guerin.** 30 D. 1860. (**2**, 446.)* (*Sardinia.*)
— **Milesi.** 31 D. 1859. (**2**, 302.)* (*Sardinia.*)
— **Obert.** 30 S. 1860. (**2**, 427.)* (*Sardinia.*)
— **Pavý.** 28 Je. 1872. II, **3**, 290 (**12**, 190).
— **Vita.** 28 Je. 1870. II, **1**, 274 (**10**, 274).
— **Vita e Brisi.** 15 O. 1874. II, **5**, 484 (**15**, 93).
— agave. **di Bargnano.** 5 Jl. 1854. 90.* (*Sardinia.*)
— asphodel. **Pinondel de la Berloche.** 30 Je. 1855. (**1**, 40.)* (*Sardinia.*)
— bleaching. **Ceresoli.** 30 Je. 1857. (**1**, 408.)* (*Sardinia.*)
— boiler. **Roemer.** 25 S. 1873. II, **4**, 462 (**13**, 442), pl. 123.
— broom. **Percivale.** 17 Ja. 1874. II, **5**, 13 (**14**, 122).
— — **Percivale.** 30 Je. 1874. II, **5**, 330 (**14**, 439), pl. 76—Ex. **7**, 333 (**17**, 285).
— — **Percivale.** 29 Jl. 1875. II, **6**, 400 (**16**, 168).
— — **Vita.** 12 Ap. 1873. II, **4**, 169 (**13**, 149).
— cleaner. **Lhuiller-Jouffray.** 8 My. 1877. II, **8**, 250 (**18**, 340), pl. 71.
— corn. **Schmid e Ragazzi.** 27 F. 1875. II, **6**, 84 (**15**, 352). Ad. **6**, 563 (**16**, 331).
— drying. **Bell.** 30 Je. 1873. II, **4**, 313 (**13**, 293), pl. 84.
— — wood. **Waissnix e Specker.** 30 Mr. 1871. II, **2**, 88 (**11**, 10), pls. 15, 16.
— esparto. **Avondo.** 31 Ja. 1873. II, **4**, 42 (**13**, 22).
— — **Ferro.** 30 S. 1857. (**1**, 465)—Ex. (**1**, 25.)* (*Sardinia.*)
— — **Terrachini.** 31 D. 1855. (**1**, 280.) Ad. (**1**, 16)—Ex. (**1**, 31.)* (*Sardinia.*)
— hemp. **Grande.** 10 F. 1875. II, **6**, 66 (**15**, 334).
— — **Vita.** 25 F. 1873. II, **4**, 97 (**13**, 77)—Ex. **5**, 158 (**14**, 267).
— hibiscus esculentum. **Società E. Chamas et Bouju Frères.** 20 N. 1874. II, **5**, 575 (**15**, 184), pl. 137.
— machine. **Easton.** 18 Ap. 1865. I, **2**, 119 (**6**, 103), pl. 29.
— — **Graziosi.** 15 N. 1880. II, **11**, 804 (**24**, 405), pl. 232.
— — **Labrousse.** 15 D. 1874. II, **5**, 612 (**15**, 221), pl. 148.
— — **Predavalle.** 6 O. 1864. I, **1**, 459 (**5**, 396), pl. 76.
— manufacture. **Deininger.** 26 Ag. 1871. II, **2**, 277 (**11**, 199), pl. 63.
— — **Eliot ed al.** 23 Ag. 1867. I, **4**, 285 (**7**, 425).
— — **Meucci.** 22 N. 1869. I, **6**, 429 (**9**, 445).
— — **Sinclair.** 2- Mr. 1873. II, **4**, 135 (**13**, 115), pl. 36.
— — **Tilghman.** 19 D. 1866. I, **3**, 285 (**7**, 111). Ad. **4**, 277 (**7**, 417).

PAPER pulp—continued.
— marsh plants. **Vita.** 12 My. 1864. I, **1**, 206 (**5**, 142).
— mulberry bark. **Buzzoni.** 22 Jl. 1868. I, **5**, 242 (**8**, 312).
— nettle. **Roserano.** 31 D. 1857. (**1**, 498)* (*Sardinia.*)
— objects molding. **Bastier.** 20 Je. 1881. II, **12**, 539 (**26**, 89), pl. 134.
— purifier, centrifugal. **Mathieu.** 28 Mr. 1870. II, **1**, 127 (**10**, 127), pl. 27.
— rape and rice. **Litta.** 30 Je. 1859. (**2**, 254.)* (*Sardinia.*)
— reducing. **Tubino.** 30 S. 1858. (**2**, 145.)* (*Sardinia.*)
— rice straw. **Candiani.** 30 S. 1867. I, **4**, 313 (**7**, 453).
— — **Casâna.** 26 D. 1867. I, **4**, 408 (**8**, 49).
— — corn husks, mulberry bark, and broom. **Carlevaris e Avondo.** 27 My. 1873. II, **4** 248 (**13**, 228).
— straw. **Bertram e figli.** 8 Ap. 1872. II, **3**, 135 (**12**, 35), pl. 41—Ex. **6**, 98 (**15**, 366).
— — and mulberry bark. **Demailly.** 22 Ap. 1871. II, **2**, 107 (**11**, 29), pl. 18.
— triturator. **Debié, Granger e Pasquier.** 6 Je. 1870. II, **1**, 237 (**10**, 237), pl. 60—Ex. **7**, 240 (**17**, 192).
— — **Vita.** 21 Ap. 1876. II, **7**, 197 (**17**, 149), pl. 45—Ex. **8**, 320 (**18**, 410); **9**, 429 (**20**, 284); **10**, 410 (**22**, 110); **11**, 500 (**24**, 101); **12**, 577 (**26**, 127).
— turnips and radishes. **Capelletto.** 15 Je. 1878. II, **9**, 364 (**20**, 219).
— washer. **Elie.** 22 My. 1874. II, **5**, 245 (**14**, 354), pl. 56.
— wood. **de Angelis.** 30 N. 1874. II, **5**, 582 (**15**, 191), pls. 139, 140.
— — **Cicognani, Conte, Ghirelli e Guidi.** 15 Ag. 1872. II, **3**, 356 (**12**, 256), pl. 89.
— — **Debenedetti.** 23 Mr. 1854. 73.* (*Sardinia.*)
— — **Giot.** 15 Mr. 1866. I, **3**, 79 (**6**, 405).
— — **Keegan.** 19 Ag. 1871. II, **2**, 269 (**11**, 191).
— — **Mussio.** 12 Je. 1871. II, **2**, 170 (**11**, 92)—Ex. **3**, 294 (**12**, 194); **3**, 561 (**12**, 461).
— — **Orioli ed al.** 11 Mr. 1865. I, **2**, 66 (**6**, 50).
— — **Tretti.** 13 S. 1871. II, **2**, 312 (**11**, 234).
— — **Ungerer.** 10 Ap. 1872. II, **3**, 138 (**12**, 38), pl. 42—Ex. **4**, 179 (**13**, 159).
— — **Vita.** 17 Ja. 1870. II, **1**, 2 (**10**, 2).
— — cornstalks, etc. **Vita.** 12 Mr. 1866. I, **3**, 65 (**6**, 391)—Ex. **4**, 121 (**7**, 261).
removing printer's ink from. **Kircker e Ebner.** 23 O. 1869. I, **6**, 392 (**9**, 408).
rolling machine. **Bischof.** 21 O. 1876. II, **7**, 505 (**17**, 458), pl. 127.
ruling machine. **Biagi.** 27 D. 1881. II, **12**, 1159 (**27**, 209), pl. 325.
— **Ravizza.** 28 F. 1882. II, **13**, 151 (**27**, 423), pl. 36.
safety. **Nowlan.** 16 Jl. 1881. II, **12**, 636 (**26**, 186).
— **Olier.** 31 Mr. 1862. (**3**, 232.)*
size. **Dariff e Manzini.** 27 N. 1871. II, **2**, 427 (**11**, 349).
speckled. **Stelingwerff.** 16 Ag. 1867. I, **4**, 282 (**7**, 422).
striped. **Volpini e Cini.** 27 Ag. 1879. II, **10**, 575 (**22**, 275).
treating for preventing fraud. **Heckmann.** 5 N. 1879. II, **10**, 719 (**22**, 419)—Ex. **11**, 941 (**25**, 42).
undulating machine. **Parodi.** 23 F. 1881. II, **12**, 108 (**25**, 158), pl. 26.
watermarking. **De la Rue.** 20 D. 1869. I, **6**, 474 (**9**, 490).
waterproofing. **Leo.** 14 N. 1870. II, **1**, 389 (**10**, 389)—Ex. **2**, 460 (**11**, 382).
— **Vallini.** 31 D. 1874. II, **5**, 655 (**15**, 264).
winding machine. **Dangoise.** 18 Jl. 1878. II, **9**, 449 (**20**, 304), pl. 133. Ad. **10**, 372 (**22**, 72), pl. 107.
wire gauze core. **Devalle, Pelli e Comp.** 7 F. 1879. II, **10**, 58 (**21**, 258).

PAPIER maché toy manufacture. **Marazzina.** 25 Jl. 1877. II, **8**, 429 (**19**, 19).

PARAFFINE extracting from anthracite, bitumen, lignite, etc. **Massara.** 24 Ja. 1868. I, **5**, 9 (**8**, 79).

PASSENGER and freight elevator. **Agudio.** 9 F. 1867. I, **4**, 47 (**7**, 186), pl. 15.
register. **Alemani.** 26 Je. 1871. II, **2**, 194 (**11**, 116), pl. 45.
— **d'Auria.** 11 D. 1871. II, **2**, 444 (**11**, 366), pl. 94.

PASSENGER register—continued.
— **d'Auria.** 27 Je. 1872. II, **3**, 284 (**12**, 184), pl. 75.
— **Avy.** 27 O. 1865. I, **2**, 289 (**6**, 273), pl. 84.
— **Bacon.** 9 Ag. 1879. II, **10**, 528 (**22**, 228), pl. 150.
— **Capiello.** 28 Ja. 1874. II, **5**, 26 (**14**, 135), pl. 3.
— **Caspani.** 29 N. 1875. II, **6**, 616 (**16**, 384), pl. 150.
— **Davis.** 19 Je. 1876. II, **7**, 289 (**17**, 241), pl. 70.
— **Majella,** 22 O. 1874. II, **5**, 512 (**15**, 121), pl. 119.
— **Marzari.** 26 Ag. 1875. II, **6**, 459 (**16**, 227), pl. 106—Ex. **7**, 487 (**17**, 440). Ad. **8**, 29 (**18**, 119), pl. 5; **10**, 540 (**22**, 240), pl. 153—Ex. **12**, 899 (**26**, 449).
— street car. **Barozzi.** 6 My. 1867. I, **4**, 140 (**7**, 280), pl. 41.
PASTEBOARD glossing. **Vinelli.** 21 Ja. 1870. II, **1**, 23 (**10**, 23)—Ex. **7**, 15 (**16**, 467).
perforating machine. **Bocchi.** 22 Jl. 1880. II, **11**, 499 (**24**, 100), pl. 142.
PASTILLE, aromatic helianthus. **Deutz e de Susini.** 22 My. 1871. II, **2**, 139 (**11**, 61).
PATTERN making. **Accasto.** 30 Mr. 1877. II, **8**, 165 (**18**, 255), pl. 47.
Stephenson. 9 N. 1877. II, **9**, 677 (**21**, 32).
PAVEMENT. **Biolley.** 14 Mr. 1866. I, **3**, 72 (**6**, 398), pl. 22.
Campiglio. 24 S. 1875. II, **6**, 519 (**16**, 287).
Ciccaglia. 4 N. 1871. II, **2**, 390 (**11**, 312).
Copland. 19 Ag. 1873. II, **4**, 392 (**13**, 372), pl. 102—Ex. **10**, 579 (**22**, 279).
Daguzan. 24 Ja. 1868. I, **5**, 7 (**8**, 77), pl. 4.
Garneri fratelli. 30 S. 1858. (**2**, 143.)* (*Sardinia.*)
Garneri. 28 F. 1874. II, **5**, 72 (**14**, 181)—Ex. **6**, 148 (**15**, 416).
Laneri. 30 Je. 1856. (**1**, 167.)* (*Sardinia.*)
Wilkinson. 19 Jl. 1875. II, **6**, 388 (**16**, 156).
asphalt. **Charlon.** 23 Je. 1871. II, **2**, 186 (**11**, 108).
— **Società Anonima Asphaltène.** 19 Je. 1876. II, **7**, 295 (**17**, 247), pl. 71.
cement. **Andreotti.** 15 Jl. 1881. II, **12**, 626 (**26**, 176).
composition. **Garneri e Grisolio.** 30 Je. 1873 II, **4**, 315 (**13**, 295).
— **Martinotti e Bonarda.** 17 Ja. 1878. II, **9**, 9 (**19**, 364).
— **Salvat.** 16 Jl. 1881. II, **12**, 653 (**26**, 203).
— **Wethered.** 25 My. 1878. II, **9**, 330 (**20**, 185) -Ex. **12**, 487 (**26**, 37).
concrete. **Coignet.** 31 D. 1859. (**2**, 314.)* (*Sardinia*)—Ex. I, **1**, 158 (**5**, 94); **2**, 331 (**6**, 315).
iron. **Frassinet.** 31 Mr. 1859. (**2**, 229.)* (*Sardinia.*)
— **Sery.** 18 Ap. 1879. II, **10**, 222 (**21**, 422), pl. 64.
rammer. **Dietrich.** 30 Ja. 1882. II, **13**, 67 (**27**, 339), pl. 18.
stone. **Zuccati.** 31 Ag. 1868. I, **5**, 289 (**8**, 359), pl. 84.
waterproof mineralized wood. **de Paolis e Gugger.** 22 O. 1874. II, **5**, 505 (**15**, 114), pl. 119.
wood. **Gallinotti.** 30 Je. 1862. (**3**, 268)*—Ex. I, **4**, 233 (**7**, 373).
— **Norris.** 25 My. 1870. II, **1**, 220 (**10**, 220), pl. 54—Ex. **2**, 262 (**11**, 184); **7**, 237 (**17**, 189).
— **Norris.** 19 Ap. 1872. II, **3**, 159 (**12**, 59), pl. 46—Ex. **6**, 288 (**16**, 56).
— **Rossi.** 11 My. 1869. I, **6**, 187 (**9**, 203).
PAVING. **Cestelli.** 31 D. 1873. II, **4**, 624 (**14**, 104), pls. 172, 173.
block. **Crocco e Giampietro.** 23 F. 1881. II, **12**, 110 (**25**, 180), pl. 26.
— **Croze.** 30 S. 1863. (**4**, 113)*—Ex. I, **1**, 177 (**5**, 113).
— **Foresti.** 24 F. 1880. II, **11**, 91 (**23**, 192).
— **Jolijon.** 30 S. 1861. (**3**, 85)*—Ex. I, **1**, 186 (**5**, 122).
— **Rosani.** 31 Ja. 1880. II, **11**, 50 (**23**, 151).
— cement. **Garneri.** 3 Mr. 1873. II, **4**, 109 (**13**, 89), pl. 32.
— manufacture. **Dussauld.** 31 Mr. 1856. (**2**, 51.)* (*Sardinia.*)
— polishing. **Bogetti.** 15 S. 1876. II, **7**, 441 (**17**, 393), pl. 110.
roller, steam. **Gellerat.** 30 N. 1864. I, **1**, 501 (**5**, 438), pl. 81—Ex. **4**, 423 (**8**, 64).
stone. **Rimbotti.** 31 Mr. 1856. (**1**, 141.)* (*Sardinia.*)
PAWL and ratchet. **Baravelli.** 30 Jl. 1869. I, **6**, 276 (**9**, 293), pl. 88.
PEA SHELLER. **Sgherlino.** 28 Jl. 1881. II, **12**, 682 (**26**, 232), pl. 167.
PEARL-SHELL, imitation. **Sticht.** 6 My. 1867. I, **4**, 145 (**7**, 285).

PEAT carbonizing. **d'Adhémar.** 31 D. 1858. (**2**, 183). Ad. (**1**, 52).* (*Sardinia.*)
— **Panton et Subtil.** 3 Ag. 1854. 93.* (*Sardinia.*)
— **Patton, Burdin, Ducroux e Muffat.** 18 Je. 1854. 84.* (*Sardinia.*)
— **Rowe.** 26 D. 1876. II, **7**, 613 (**18**, 66), pls. 157, 158.
— apparatus. **Bichon et Comp.** 19 O. 1878. II, **9**, 645 (**20**, 500), pl. 200.
— — **Dionisio.** 12 S. 1865. I, **2**, 241 (**6**, 225), pl. 64—Ex. **5**, 343 (**8**, 413).
compressing machine. **Moro.** 9 Ap. 1864. I, **1**, 86 (**5**, 22), pl. 7—Ex. I, **1**, 311 (**5**, 247). Ad. 1, **1**, 460 (**5**, 397), pl. 67.
— **Pecora.** 31 D. 1863. (**4**, 125)—Ex. I, **1**, 80 (**5**, 16), pl. 11; **1**, 101 (**5**, 37).
— **Tomassi.** 2 Je. 1868. I, **5**, 187 (**8**, 357), pl. 56.
concentrating. **Moro.** 30 Je. 1861. (**3**, 159.)*
— machine. **Mazzini.** 23 Ja. 1875. II, **6**, 24 (**15**, 292), pl. 5.
— — **Moro.** 6 Ag. 1872. II, **3**, 352 (**12**, 252), pl. 89—Ex. **4**, 553 (**14**, 30); **5**, 530 (**15**, 139); **6**, 529 (**16**, 297).
— — **Moro.** 10 Jl. 1875. II, **6**, 360 (**16**, 128).
— — **Radice-Pozzi e Comp.** 13 My. 1875. II, **6**, 238 (**16**, 6).
drier. **Nehse.** 30 S. 1862. (**3**, 297.)*
drying. **Coletti.** 30 Je. 1855. (**1**, 18.)* (*Sardinia.*)
kneading machine. **Balbiani.** 21 Ap. 1875. II, **6**, 191 (**15**, 459), pls. 37–39.
machine. **Hayes.** 9 Mr. 1872. II, **3**, 64 (**11**, 464), pl. 18.
— **de Lara ed al.** 28 N. 1866. I, **3**, 257 (**7**, 84), pls. 77, 78.
molding machine. **Moro.** 31 D. 1862. (**3**, 415.)*
preparing. **Wolframm ed al.** 3 D. 1866. I, **3**, 268 (**7**, 94), pl. 75.
— machine. **Bonelli.** 17 D. 1864 I, **1**, 522 (**5**, 459), pl. 84.
press. **Boudiot.** 14 My. 1874. II, **5**, 228 (**14**, 337), pl. 50.
pulverizer. **Baron.** 6 Ap. 1866. I, **3**, 86 (**6**, 412), pl. 28.
treating. **Badoni e David.** 31 Mr. 1858. (**2**, 184.)* (*Sardinia.*)
— **Ckiandi.** 31 D. 1857. (**2**, 9.) Ad. (**1**, 37).* (*Sardinia.*)
— **Eybord.** 18 Je. 1854. 83.* (*Sardinia.*)
— **Ferrero.** 30 Je. 1856. (**1**, 169.)* (*Sardinia.*)
— **Giussani.** 30 S. 1855. (**1**, 71.)* (*Sardinia.*)
— **Gonzales.** 21 Ag. 1873. II, **4**, 403 (**13**, 383), pl. 103.
— **Manrique.** 30 S. 1861. (**3**, 133.)*
— **Ponti.** 24 My. 1876. II, **7**, 251 (**17**, 203), pl. 57.
— **Sagey.** 30 Je. 1858. (**2**, 106.)* (*Sardinia.*)
— **Wilkinson.** 19 Jl. 1875. II, **6**, 388 (**16**, 156).
— **William.** 31 D. 1862 (**3**, 387).*
— machine. **Clayton e Howlett.** II, **4**, 274 (**13**, 254), pl. 72.
— — **Moro.** 27 Je. 1870. II, **1**, 263 (**10**, 263), pl. 66.
triturating. **Berthelais.** 30 S. 1857. (**1**, 470.)* (*Sardinia.*)
PEN. **Hammesfohr.** 30 Ja. 1880. II, **11**, 41 (**23**, 142), pl. 13.
fountain. **Bernardi.** 31 Mr. 1861. (**3**, 212.)*
— **Guidotti.** 30 Je. 1860. (**2**, 430.)* (*Sardinia.*)
— **Hearson.** 20 O. 1881. II, **12**, 932 (**26**, 482), pl. 247.
— **Piovera.** 31 D. 1873. II, **4**, 627 (**14**, 107), pl. 173.
— **Stewart.** 28 F. 1882. II, **13**, 153 (**27**, 425), pl. 38.
— **Torrigiani.** 18 O. 1878. II, **9**, 628 (**20**, 483), pl. 192.
— **Zucoli.** 7 My. 1875. II, **6**, 232 (**15**, 500), pl. 48.
holder. **Fischer.** 24 F. 1881. II, **12**, 117 (**25**, 167), pl. 27.
— **Galland.** 29 D. 1873. II, **4**, 615 (**14**, 95), pl. 166.
— measure combined. **Massip.** 30 N. 1878. II, **9**, 727 (**21**, 82)—Ex. **10**, 853 (**23**, 53).
PENCIL. **Hardmuth.** 31 Mr. 1882. II, **13**, 286 (**28**, 58), pl. 76.
Mahla. 30 N. 1878. II, **9**, 721 (**21**, 76).
Sculler e Mahla. 29 Jl. 1874. II, **5**, 355 (**14**, 464).
copying. **Schwanhäuser.** 21 Ap. 1875. II, **6**, 196 (**15**, 464).
indelible. **Froescheis.** 15 Mr. 1877. II, **8**, 112 (**18**, 202).
manufacture. **Kurz.** 24 S. 1881. II, **12**, 853 (**26**, 403), pl. 221.
— **Raison sociale Mollard fils aîné et Cie.** 30 S. 1856. (**1**, 233.)* (*Sardinia.*)
measure combined. **Massip.** 30 N. 1878. II, **9**, 727 (**21**, 82)—Ex. **10**, 853 (**23**, 53).
protector. **Cohen.** 31 O. 1881. II, **12**, 976 (**27**, 26), pl. 262.

PENDULUM. **Boldrini.** 30 Je. 1856. (**1**, 194.) Ad. (**1**, 13)* (*Sardinia.*)
motor. **Montecucco.** 31 D. 1863. (**4**, 163)*—Ex. I, **4**, 6 (**7**. 145).
PENMAN'S finger-ring. **Woog.** 10 O. 1867. I, **4**, 330 (**7**, 470), pl. 98.
PEPPERCAN. **Aguettant.** 8 F. 1878. II, **9**, 61 (**19**, 416), pl. 15.
PERFORATING cloth. **Caccia e Comp.** 21 Ap. 1881. II, **12**, 350 (**25**, 400).
writing machine. **Wilson.** 9 Ag. 1879. II, **10**, 526 (**22**, 226), pl. 144.
PERFUME extracting. **Massignon.** 18 N. 1879. II, **10**, 762 (**22**, 462), pl. 210.
— **Società Chardin e Massignon.** 31 D. 1869. I. **6**, 467 (**9**, 483).
manufacture. **Naudin e Schneider.** 30 Je. 1879. II, **10**, 416 (**22**, 116), pl. 119.
preparation of fatty substance to absorb. **Chiris.** 25 F. 1867. I, **4**, 76 (**7**, 215), pl. 25.
PERPETUAL motion. **Bertucelli.** 17 N. 1881. II, **12**, 1016 (**27**, 66), pl. 274.
— **Bono.** 11 F. 1868. I, **5**, 13 (**8**, 83), pl. 5.
— **Franceschi.** 18 N. 1879. II, **10**, 747 (**22**, 447), pl. 204.
— **Gamboni.** 11 D. 1873. II, **4**, 586 (**14**, 66), pl. 162.
— **Garbolino.** 9 Je. 1871. II, **2**, 164 (**11**, 86), pl. 37.
— **Garrivé-Meynard.** 24 Mr. 1877. II, **8**, 144 (**18**, 234), pl. 43.
— **Horstmann.** 28 Je. 1878. II, **9**, 404 (**20**, 259), pls. 119–121.
— **Lamanna.** 14 F. 1882. II, **13**, 102 (**27**, 374).
— **Patron ed al.** 3 Jl. 1865. I, **2**, 188 (**6**, 172), pl. 50.
— **Quadrini.** 15 N. 1877. II, **8**, 655 (**19**, 245), pl. 172.
— **Raberin.** 28 Ag. 1872. II, **3**, 383 (**12**, 283), pl. 93.
— **Romano.** 24 Ja. 1868. I, **5**, 10 (**8**, 80), pl. 4—Ex. **6**, 97 (**9**, 113).
— **Rosetta.** 30 S. 1860. (**2**, 411.)* (*Sardinia.*)
— **Schopfer.** 14 F. 1882. II, **13**, 105 (**27**, 377), pl. 32.
— **Scotto e Bracco.** 30 Je. 1859. (**2**, 290.)* (*Sardinia.*)
— **Side.** 23 Jl. 1868. I, **5**, 254 (**8**, 324), pl. 72—Ex. **6**, 312 (**9**. 328).
— **Simoncini.** 24 D. 1869. I, **6**, 482 (**9**, 498).
— **Zecca.** 31 Jl. 1879. II, **10**, 510 (**22**, 210), pl. 144.
— **Ziccardi.** 25 O. 1871. II, **2**, 362 (**11**, 284), pl. 78.
— hydraulic. **Balsamello.** 12 Ap. 1880. II, **11**, 212 (**23**, 313), pl. 62.
— — **Boutet.** 7 F. 1877. II, **8**, 51 (**18**, 141), pl. 15—Ex. **10**, 884 (**23**, 84).
— — **Brachigny e Deschamps.** 14 O. 1872. II, **4**, 492 (**13**, 472), pl. 138. Ad. **7**, 579 (**18**, 32), pl. 151.
— — **Carrera.** 6 Je. 1870. II, **1**, 234 (**10**. 234), pl. 58.
— — **Carrera.** 6 Je. 1870. II, **1**, 239 (**10**, 239), pl. 62.
— — **Colombini.** 25 O. 1871. II, **2**, 363 (**11**, 285), pl. 79.
— — **Duhamel.** 30 S. 1863. (**4**, 57.)*
— — **Meriggioli padre e figlio.** 26 D. 1876. II, **7**, 614 (**18**, 67), pl. 158. Alt. **8**, 350 (**18**, 440), pl. 96.
— — **Tagliafico.** 20 F. 1875. II, **6**, 72 (**15**, 340), pl. 15. —Ex. **7**, 193 (**17**, 145); **8**, 202 (**18**, 292); **9**, 234 (**20**, 89).
— hydropneumatic. **Solei.** 7 S. 1869. I, **6**, 335 (**9**, 351), pl. 114.
PESTLE. **Mancini.** 2 S. 1872. II, **3**, 399 (**12**, 299), pl. 98.
PETROLEUM. **Bonandi.** 31 My. 1872. II, **3**, 214 (**12**, 114).
MacIvor. 20 Ag. 1880. II, **11**, 573 (**24**, 174), pl. 162.
artificial. **Bonandi.** 29 Jl. 1874. II, **5**, 358 (**14**, 467).
burning apparatus. **Muller.** 15 Je. 1867. I, **4**, 193 (**7**, 333), pl. 67.
engine. **Miccioni, Del Corona e Comp.** 13 Ag. 1880. II, **11**, 545 (**24**, 146), pl. 151.
furnace. **Biddle.** 30 S. 1862. (**3**, 319.)*
— **de Ferrari.** 24 N. 1876. II, **7**, 557 (**18**, 10), pl. 141. Ad. **7**, 566 (**18**, 19).
purifying. **Bouisson et Baron.** 31 Mr. 1864. (**4**, 145.)*
— **Canet.** 31 Mr. 1861. (**3**, 11.)*
— **Cherrier e Blondin.** 21 Mr. 1870. II, **1**, 95 (**10**, 95).
— **Degola.** 28 My. 1868. I, **5**, 142 (**8**, 212), pl. 34.
storing. **Mathei.** 1 Je. 1868. I, **5**, 172 (**8**, 242), pl. 47.
treating. **Bany.** 31 Mr. 1864. (**4**, 154.)*
— **Cohen et Cie.** 31 D. 1863. (**4**, 133)*—Ex. I, **1**, 118 (**5**, 54).
PHONOGRAPH. **Edison.** 4 Jl. 1878. II, **9**, 422 (**20**, 277), pls. 124, 125.
PHOSPHATE. *See* Calcium hyperphosphate, Calcium.
PHOSPHORESCENT compound. **Peiffer, MacCarty e de Sagan.** 31 D. 1878. II, **9**, 828 (**21**, 183), pl. 241.
PHOSPHORUS. **Schiapparelli e Sorisio.** 28 Ap. 1874. II, **5**, 200 (**14**, 309).
PHOTOCERAMIC. **Leluy.** 7 F. 1879. II, **10**, 57 (**21**, 257).
PHOTOELECTROTYPY. **Testa.** 14 D. 1881. II, **12**, 1106 (**27**, 156).
PHOTOGALVANOGRAPHY. **Placet.** 6 O. 1864. I, **1**, 402 (**5**, 399).
PHOTOGRAPH. **Bugliarelli.** 7 Jl. 1873. II, **4**, 321 (**13**, 301).
Davicce. 31 D. 1862. (**3**, 368.)*
Raffaelli. 31 D. 1880. II, **11**, 940 (**25**, 41).
Weintraub. 7 F. 1879. II, **10**, 63 (**21**, 263).
carbon. **Lambert.** 29 D. 1874. II, **5**, 647 (**15**, 256).
— **Sobacchi e Fornari.** 17 S. 1875. II, **6**, 477 (**16**, 245), pl. 110.
card. **Pesarini.** 17 Jl. 1868. I, **5**, 235 (**8**, 305).
colored. **Billups e Lee.** 9 F. 1874. II, **5**, 47 (**14**, 156)—Ex. **6**, 175 (**15**, 443).
coloring. **Favre.** 10 My. 1880. II, **11**, 281 (**23**, 382).
— **Klein e Maspero.** 31 D. 1878. II, **9**, 838 (**21**, 193).
— **Lombardi e Lewinger.** 15 My. 1879. II, **10**, 282 (**21**, 482).
— **Pavani.** 12 O. 1881. II, **12**, 888 (**26**, 438).
— **Reeves.** 16 My. 1872. II, **3**, 203 (**12**, 103)—Ex. **4**, 239 (**13**, 219).
— **Rossi.** 12 Mr. 1866. I, **3**, 46 (**6**, 372).
glazing press. **Muhé.** 22 D. 1873. II, **4**, 607 (**14**, 87), pl. 169.
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microstereoscopic. **Dagron.** 30 S. 1861. (**3**, 127.)*
PHOTOGRAPHIC apparatus. **Lefeuvrier.** 12 S. 1881. II, **12**, 819 (**26**, 369), pl. 216.
— **Liebert ed al.** 1 Ap. 1864. I, **1**, 67 (**5**, 3), pl. 1.
— **Stein.** 19 My. 1873. II, **4**, 231 (**13**, 211), pl. 61.
camera and mirror. **Pogliani e Gualazzi.** 25 Je. 1875. II, **6**, 338 (**16**, 106).
carbon process. **Johnson.** 11 My. 1869. I, **6**, 188 (**9**, 204), pl. 62—Ex. II, **1**, 203 (**10**, 203).
card. **Corradi.** 4 Jl. 1864. I, **1**, 323 (**5**, 259).
— **Langhans.** 23 Mr. 1882. II, **13**, 238 (**28**, 10), pl. 59.
compound. **Montelatici.** 5 Ap. 1876. II, **7**, 168 (**17**, 120). Ad. **7**, 293 (**17**, 245).
copying. **Morvan.** 31 D. 1862. (**3**, 385.)*
double background. **Crozat.** 23 F. 1865. I, **2**, 57 (**6**, 41)—Ex. **2**, 146 (**6**, 130).
enlargement. **Carette.** 30 Mr. 1875. II, **6**, 136 (**15**, 404). Ad. **6**, 647 (**16**, 415).
— apparatus. **Colombo.** 20 My. 1869. I, **6**, 198 (**9**, 214)
lens. **Dallmeyer.** 22 F. 1867. I, **4**, 71 (**7**, 210), pl. 23.
— **Steinheil.** 18 D. 1865. I, **2**, 330 (**6**, 314), pl. 102.
music printing. **Bettini.** 23 My. 1865. I, **2**, 140 (**6**, 124).
paper. **Vezzari.** 10 N. 1880. II, **11**, 793 (**24**, 394).
— preparing. **Johnson.** 28 Mr. 1870. II, **1**, 119 (**10**, 119).
— — **Montgolfier.** 29 N. 1865. I, **2**, 319 (**6**, 303).
pictures on metal. **Mori ed al.** 17 O. 1868. I, **5**, 350 (**8**, 420).
positive. **Bronzini.** 30 D. 1876. II, **7**, 630 (**18**, 83).
— **Wothly.** 2 F. 1865. I, **2**, 36 (**6**, 20).
printing. **Poli.** 30 Ap. 1881. II, **12**, 381 (**25**, 431).
— **Gemoser.** 31 D. 1869. I, **6**, 459 (**9**, 475).
— **Willis.** 30 Jl. 1878. II, **9**, 483 (**20**, 338).
— in colored ink. **Tensi fratelli.** 24 S. 1881. II, **12**, 851 (**26**, 401).
— in colors. **Despaquis.** 21 N. 1878. II, **9**, 715 (**21**, 70).
— — **Germeuil-Bonnaud.** 30 Je. 1879. II, **10**, 427 (**22**, 127).
— — **Società anonima di pubblicazioni periodiche.** 17 My. 1875. II, **6**, 250 (**16**, 18).
— — **Vogl fratelli.** 29 O. 1877. II, **8**, 622 (**19**, 212).
— on cloth. **Gondrand fratelli.** 25 Ja. 1878. II, **9**, 40 (**19**, 395).
— — **Rubino.** 27 F. 1877. II, **8**, 87 (**18**, 177).
— — **Winter.** 26 Ap. 1877. II, **8**, 225 (**18**, 315).
— on glass. **Ratti.** 21 Mr. 1874. II, **8**, 133 (**18**, 223).
— on metal in relief. **Kossuth.** 30 Jl. 1866. I, **3**, 191 (**7**, 17).

PHOTOGRAPHIC printing—continued.
— on porcelain. **Fornari.** 29 Ja. 1877. II, **8**, 32 (**18**, 122), pl. 6.
— — **Ginori Lisci e Alinari fratelli.** 19 Ap. 1872. II, **3**, 157 (**12**, 57).
— without apparatus. **Cavalieri.** 21 D. 1872. II, **3**, 558 (**12**, 458).
process. **Ambrosetti.** 5 My. 1874. II, **5**, 211 (**14**, 320).
— **Bernoud.** 16 Je. 1865. I, **2**, 162 (**6**, 146), pl. 41.
— **Edwards.** 3 F. 1869. I, **6**, 35 (**9**, 51).
— **Fargier.** 30 Je. 1861. (**3**, 60.)*
— **Giuliani.** 14 Ja. 1882. II, **13**, 19 (**27**, 291).
— **Mamoli e Griffini.** 20 Ja. 1877. II, **8**, 24 (**18**, 114). Ad. **8**, 216 (**18**, 306).
— **Michaud.** 4 Jl. 1878. II, **9**, 415 (**20**, 270), pl. 122.
— **Pagliano.** 20 Mr. 1869. I, **6**, 99 (**9**, 115)—Ex. II, **1**, 145 (**10**, 145).
— **Rey.** 23 Mr. 1869. I, **6**, 120 (**9**, 136).
— **Rousseau de Lafarge.** 31 D. 1862. (**3**, 373.)*
— **Sarony.** 24 My. 1869. I, **6**, 213 (**9**, 229).
— **Schiapparelli.** 9 Mr. 1872. II, **3**, 70 (**11**, 470).
— **Testud de Beauregard.** 31 Mr. 1858. (**2**, 40.)* (*Sardinia.*)
— **Tournachon.** 30 Je. 1859. (**2**, 245.)* (*Sardinia.*)
— colors. **Ducos-Duhauron.** 8 Ag. 1876. II, **7**, 386 (**17**, 338).
— plastic. **Hommel.** 15 O. 1875. II, **6**, 549 (**16**, 317).
— without camera. **Fiorani.** 30 S. 1867. I, **4**, 310 (**7**, 450).
relief. **Guillebaud.** 12 O. 1881. II, **12**, 919 (**26**, 469), pl. 244.
— **Woodbury.** 12 Ap. 1866. I, **3**, 110 (**6**, 436)—Ex. **6**, 70 (**9**, 86); II, **3**, 145 (**12**, 45).
reproduction on metals. **Philippi.** 18 Ja. 1882. II, **13**, 32 (**27**, 304).
stereotype plate retouching. **Lambert.** 12 Je. 1874. II, **5**, 281 (**14**, 390).
PHOTOLITHOGRAPHY. **Capron, Duvivier et Ponsolle.** 15 N. 1877. II, **8**, 652 (**19**, 242).
Ricesch. 29 Ja. 1870. II, **1**, 40 (**10**, 40).
Tessié. 31 Mr. 1865. I, **2**, 111 (**6**, 95).
PHOTOMECHANICAL printing. **Edwards.** 16 My. 1872. II, **3**, 204 (**12**, 104)—Ex. **6**, 352 (**16**, 120).
PHOTOMETER. **Coglievina.** 6 S. 1880. II, **11**, 621 (**24**, 222), pl. 178.
Schütte. 8 Je. 1875. II, **6**, 287 (**16**, 55), pl. 64.
PHOTOSCULPTURE. **Luzzati.** 27 S. 1865. I, **2**, 257 (**6**, 241), pl. 72.
Willème. 31 Mr. 1863. (**4**, 31)*—Ex. I, **1**, 153 (**5**, 89).
PIANO. **d'Avenia.** 14 Ag. 1874. II, **5**, 403 (**15**, 12), pl. 91.
d'Avenia. 18 Je. 1875. II, **6**, 322 (**16**, 90), pl. 70.
Cardera e Brossa. 31 Ja. 1876. II, **7**, 43 (**16**, 495), pl. 12.
Colombo. 30 Je. 1860. (**2**, 370.)* (*Sardinia.*)
Gillone. 3 Mr. 1881. II, **12**, 161 (**25**, 211), pl. 40.
Marchisio. 12 O. 1866. I, **3**, 227 (**7**, 53), pl. 66.
de Meglio. 20 Jl. 1873. II, **4**, 362 (**13**, 342), pl. 98.
de Nydpruck e Beunon. 23 O. 1880. II, **11**, 742 (**24**, 343), pl. 217.
Piatti. 25 Ag. 1877. II, **8**, 501 (**19**, 91).
Predavalle. 30 Je. 1861. (**3**, 64.)*
Stanzieri. 8 F. 1866. II, **3**, 34 (**6**, 360), pl. 8.
action. **Abate.** 30 Je. 1863. (**3**, 481.)*
— **Cadot.** 6 Ap. 1878. II, **9**, 202 (**20**, 57), pl. 52.
— **Farr ed al.** 6 F. 1866. I, **3**, 25 (**6**, 351), pl. 8.
— **Meglio.** 12 Mr. 1866. I, **3**, 47 (**6**, 373), pl. 24.
— **Schwander e Herrburger.** 11 My. 1878. II, **9**, 277 (**20**, 132), pl. 75. Ad. II, **11**, 835 (**24**, 436), pl. 244.
— pneumatic. **Frati.** 23 N. 1881. II, **12**, 1028 (**27**, 78), pl. 282.
— upright. **Ducci.** 25 O. 1866. I, **3**, 238 (**7**, 64), pl. 70.
— — **Grimm.** 29 Ag. 1867. I, **4**, 299 (**7**, 439), pl. 94—Ex. **5**, 282 (**8**, 352); II, **1**, 338 (**10**, 338).
and keyboard. **Roz.** 24 S. 1864. I, **1**, 443 (**5**, 380), pls. 53, 54.
frame. **Philippi.** 26 Mr. 1867. I, **4**, 91 (**7**, 231), pl. 29.
gas flame. **Kastner.** 30 N. 1872. II, **3**, 524 (**12**, 424), pl. 127.
harmonium. **Brusco.** 13 Jl. 1872. II, **3**, 302 (**12**, 202), pl. 78.
harp. **Antoldi.** 7 Je. 1880. II, **11**, 351 (**23**, 452), pl. 99. Ad. **12**, 478 (**26**, 28).
key. **Staight.** 22 D. 1873. II, **4**, 603 (**14**, 83).

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keyboard. **Grassi-Landi.** 23 Je. 1879. II, **10**, 395 (**22**, 95), pl. 115. Ad. **10**, 576 (**22**, 95), pl. 162.
— regulator. **Maury et Dumas père et fils.** 30 S. 1862. (**3**, 305.)*
— transposing. **Pivoda.** 10 Je. 1867. I, **4**, 188 (**7**, 328), pl. 57.
— — **Wolff.** 7 F. 1873. II, **4**, 56 (**13**, 36), pl. 15.
melodeon. **Fummo.** 30 S. 1862. (**3**, 377.)* (Alt. **8**, 347, pls. 76, 77)—Ex. I, **1**, 179 (**5**, 115); **1**, 181 (**5**, 117). Ad. **2**, 217 (**6**, 201), pls. 59, 60.
— **Nunneri.** 14 D. 1881. II, **12**, 1094 (**27**, 144), pl. 298.
octave coupling. **Landi ed al.** 14 Ag. 1869. I, **6**, 143 (**9**, 159), pl. 45.
— **Teichgräber.** 8 Je. 1878. II, **9**, 356 (**20**, 211), pls. 98, 99.
orchestra. **Schalkenbach.** 31 M. 1862. (**3**, 223.)*
pedal. **Wolff.** 8 Je. 1875. II, **6**, 296 (**16**, 64), pl. 67.
repeating action. **Brinsmead.** 7 My. 1868. I, **5**, 115 (**8**, 185), pl. 28.
— **Caldera.** 27 My. 1865. I, **2**, 155 (**6**, 139), pl. 38.
— **Plass.** 30 Mr. 1878. II, **9**, 170 (**20**, 25), pl. 42.
self-playing. **Amann.** 20 D. 1866. I, **3**, 299 (**7**, 125), pl. 85.
— **Schmoele e Mols.** 29 Ag. 1881. II, **12**, 772 (**26**, 322), pls. 201, 202.
— attachment. **Bernoni.** 20 Mr. 1880. II, **11**, 160 (**23**, 261), pl. 53.
— — **Wider.** 25 Ja. 1879. II, **18**, 14 (**21**, 214), pls. 4, 5—Ex. **11**, 40 (**23**, 141).
steel and glass. **Fummo.** 13 Jl. 1872. II, **3**, 306 (**12**, 206), pl. 79.
string. **Hamilton.** 15 D. 1874. II, **5**, 609 (**15**, 218).
tuning guide. **Delsarte.** 31 Mr. 1863. (**4**, 3)*—Ex. I, **1**, 293 (**5**, 229).
upright. **Abate.** 19 Ap. 1867. I, **4**, 122 (**7**, 262), pl. 40.
— **Fummo.** 12 Mr. 1874. II, **5**, 94 (**14**, 203), pl. 20—Ex. **6**, 323 (**16**, 91). Ad. **6**, 329 (**16**, 97), pl. 71.
PICK. **Milesi e Colalto.** 31 D. 1862. (**3**, 463.) Ad. (**1**, 144)*—Ex. I, **2**, 31 (**6**, 15); **3**, 13 (**6**, 339); **4**, 3 (**7**, 142).
ax. **Noot.** 5 D. 1871. II, **2**, 437 (**11**, 359), pl. 92.
— etc., machine. **Lowman.** 22 D. 1868. I, **5**, 435 (**9**, 6), pl. 132.
shovel. **Vogel e Noot.** 5 Je. 1877. II, **8**, 319 (**18**, 409), pl. 86. Ad. **9**, 360 (**20**, 215), pl. 101—Ex. **10**, 225 (**21**, 425).
spade. **Prior.** 13 Jl. 1880. II, **11**, 480 (**24**, 81), pl. 136.
PICKPOCKET alarm. **Quarantini.** 15 N. 1877. II, **8**, 656 (**19**, 246), pl. 170.
PICKLED pork. **de Piosa.** 10 O. 1877. II, **8**, 572 (**19**, 162).
PICTURE copying apparatus. **Schilling.** 5 My. 1879. II, **10**, 261 (**21**, 461), pl. 74.
exhibitor. **Danthendey.** 27 O. 1873. II, **4**, 525 (**14**, 5), pl. 148.
— **Leeb.** 23 Je. 1874. II, **5**, 292 (**14**, 401), pl. 68.
fixing liquid. **Ciccaglia.** 20 My. 1880. II, **11**, 328 (**23**, 429).
frame machine. **Picchi.** 27 Jl. 1864. I, **1**, 395 (**5**, 352), pl. 43.
rack. **Muench.** 26 Mr. 1880. II, **11**, 178 (**23**, 279), pl. 54.
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PIGEON-SHOOTING apparatus. **Bazin.** 27 Ap. 1878. II, **9**, 250 (**20**, 105), pl. 63.
PIGMENT, white. **Griffiths.** 20 O. 1880. II, **11**, 730 (**24**, 331).
PILE. **Franco.** 31 D. 1858. (**2**, 166.)* (*Sardinia.*)
Galopin Sue, Jacob e Comp. 26 Je. 1880. II, 11, 418 (**24**, 19), pl. 126.
driver. **Porta.** 30 N. 1856. (**1**, 295.)* (*Sardinia.*)
— **Rua.** 4 Je. 1881. II, **12**, 504 (**26**, 54), pl. 128. Ad. **12**, 1205 (**26**, 54), pl. 336.
— **Syng.** 7 Jl. 1869. I, **6**, 261 (**9**, 277), pl. 84.
driving. **Compagnie de Fives-Lille.** 27 N. 1873. II, **4**, 578 (**14**, 58), pl. 158.
— **Moro.** 6 Ag. 1872. II, **3**, 353 (**12**, 253), pl. 90—Ex. **4**, 552 (**14**, 32).
metallic. **Cottrau.** 22 My. 1871. II, **2**, 141 (**11**, 63), pl. 28.
screw. **Tardy, Galopin Sûe e Jacob.** 19 Je. 1878. II, **9**, 390 (**20**, 245), pl. 110—Ex. **12**, 583 (**26**, 133).
shoe machine. **Carrera.** 17 Je. 1870. II, **1**, 244 (**10**, 244), pl. 75.

PILE FABRIC. **Cagliani.** 14 Ag. 1876. II, **7**, 391 (**17**, 343), pl. 98.
cutting and gluing machine. **Gachet.** 30 S. 1859. (**2**, 264.)* (*Sardinia.*)
double weaving. **Bouveyron e Pons.** 24 F. 1855. 110.* (*Sardinia.*)
manufacture. **Bayla, Calzone e Comp.** 2 S. 1852. 36.* (*Sardinia.*)
shearing machine. **Pogliani** 15 Ag. 1872. II, **3**, 361 (**12**, 261), pl. 89.
PIN machine. **Deforest.** 14 Je. 1872. II. **3**, 245 (**12**, 145), pls. 68, 69—Ex. **4**, 304 (**13**, 284). Ad. **6**, 157 (**15**, 425), pl. 31.
papering machine. **Deforest.** 14 Je. 1872. II, **3**, 246 (**12**, 146), pls. 70, 71—Ex. **4**, 305 (**13**, 285.)
PINCERS. **Apolloni.** 23 Ap. 1880. II, **11**, 256 (**23**, 357), pl. 70.
Noot. 5 D. 1871. II, **2**, 436 (**11**, 358), pl. 91.
PIPE. *See also* Cement, Clay, Drain, Gas, Hot air, India-rubber, Lead, Metal, Organ, Sewer, Steam engine dry, Stone, Tobacco, Water.
Riedel. 18 O. 1878. II, **9**, 635 (**20**, 490), pl. 197. Ad. **10**, 772 (**22**, 472), pl. 211.
coupling. **Badois.** 31 O. 1879. II, **10**, 712 (**22**, 412), pl. 190.
— **Barigozzi.** 20 N. 1872. II, **3**, 509 (**12**, 409), pl. 120.
— **Bell.** 20 Ja. 1877. II, **8**, 27 (**18**, 117), pl. 5.
— **Cipolletti.** 11 Je. 1879. II, **10**, 352 (**22**, 52). pl. 94.
— **Delperdange.** 12 My. 1861. I, **1**, 204 (**5**, 140), pl. 17.
— **Durenne.** 7 O. 1865. I, **2**, 262 (**6**, 246), pl. 74—Ex. II, **2**, 351 (**11**, 273); **2**, 441 (**11**, 363).
— **Dussard.** 17 Ap. 1867. I, **4**, 107 (**7**, 247), pl. 35—Ex. **5**, 83 (**8**, 153).
— **Farjon.** 14 D. 1872. II, **3**, 542 (**12**, 442), pl. 131.
— **Galasse.** 23 Mr. 1869. I, **6**, 111 (**9**, 127), pl. 43.
— **Guyet.** 30 S. 1857. (**1**, 476.) Ad. (**1**, 47).* (*Sardinia.*)
— **Lavril.** 31 Mr. 1860. (**2**, 350.)* (*Sardinia.*)
— **Olivieri.** 15 S. 1879. II, **10**, 589 (**22**, 289), pl. 166.
— **Page.** 25 Ja. 1881. II, **12**, 7 (**25**, 57), pl. 1.
— **Roche.** 22 F. 1873. II, **4**, 83 (**13**, 63), pl. 23.
— **Schmidt.** 11 Je. 1879. II, **10**, 356 (**22**, 56), pl. 97—Ex. **11**, 372 (**23**, 473); **12**, 588 (**26**, 138).
— **Somzée.** 22 Jl. 1876. II, **7**, 348 (**17**, 300), pl. 80.
— **Stanford.** 14 My. 1874. II, **5**, 226 (**14**, 335), pl. 44—Ex. **8**, 259 (**18**, 349).
— **Talard.** 22 F. 1881. II, **12**, 87 (**25**, 137), pl. 21.
— **Verstraeten.** 20 Jl. 1877. II, **8**, 421 (**19**, 11), pl. 110.
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— — **Società Finanziaria di Parigi.** 20 Mr. 1875. II, **6**, 113 (**15**, 381).
— — **Société Financière.** 18 Je. 1875. II, **6**, 318 (**16**, 86).
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— **Rocca e Lancia fratelli.** 30 S. 1855. (**1**, 86)—Ex. (**1**, 23).* (*Sardinia.*)
— **Rocca e Lancia fratelli.** 30 Je. 1856. (**1**, 187.)* (*Sardinia.*)
— **Sicard.** 15 D. 1873. II, **4**, 589 (**14**, 69), pl. 163.
fruit. **Bruzzese.** 14 S. 1872. II, **3**, 412 (**12**, 312).
— **Ciotti.** 27 My. 1871. II. **2**, 147 (**11**, 69).
— **Sewall e Loring.** 27 Ap. 1871. II, **2**, 113 (**11**, 35).
— mixer. **Baj.** 31 Ag. 1878. II, **9**, 536 (**20**, 391), pl. 164.
grain. **de Fontaine.** 30 S. 1857. (**1**, 468.)* (*Sardinia*)—Ex. I, **1**, 105 (**5**, 41).
— **Salaville.** 30 S. 1855. (**1**, 51.)* (*Sardinia.*)
hides and furs. **Croizier de Ronzières.** 31 Mr. 1858. (**2**, 33.)* (*Sardinia.*)
lard. **Lancia fratelli.** 30 Je. 1861. (**3**, 81.)*
meat **Aurineta.** 25 Ag. 1869. I, **6**, 327 (**9**, 343).
— **Betti.** 16 Ja. 1879. II, **10**, 11 (**21**, 211), pl. 4—Ex. **12**, 1153 (**27**, 203).
— **Bizzari.** 26 Ag. 1875. II, **6**, 458 (**16**, 226).
— **Chanbon.** 12 Je. 1876. II. **7**, 274 (**17**, 226).
— **Cirio.** 15 My. 1867. I, **4**, 155 (**7**, 295).
— **Conti-Barbaran.** 8 Ag. 1874. II, **5**, 379 (**14**, 488).
— **Croci.** 9 N. 1872. II, **3**, 493 (**12**, 393).
— **Dompé.** 22 Jl. 1867. I, **4**, 230 (**7**, 370), pl. 71.
— **Eckart.** 18 O. 1878. II, **9**, 618 (**20**, 473)—Ex. **10**, 447 (**22**, 147). Ad. **12**, 491 (**26**, 41).
— **Forno e Berardo.** 28 Mr. 1879. II, **10**, 177 (**21**, 377).
— **Gorges.** 6 My. 1867. I, **4**, 136 (**7**, 276).
— **Herzen.** 31 Mr. 1875. II, **6**, 153 (**15**, 421).
— **Kuntze.** 31 Ja. 1879. II, **10**, 44 (**21**, 244), pls. 12, 13.
— **Lancia fratelli.** 9 N. 1872. II, **3**, 492 (**12**, 392), pl. 119.
— **Lancia fratelli.** 20 Ap. 1881. II, **12**, 334 (**25**, 384), pl. 78.
— **Mége.** 15 Mr. 1876. II, **7**, 113 (**17**, 65).
— **Meinert.** 29 Ap. 1882. II, **13**, 379 (**28**, 151).
— **Mercier, Alberti e Valazza.** 30 Je. 1856. (**1**, 212.)* (*Sardinia.*)
— **de Paula-Marquez.** 18 O. 1878. II, **9**, 617 (**20**, 472).
— **Rocco-Franco.** 30 Je. 1855. (**1**, 25).* (*Sardinia.*)
— **Società Mann's Refrigerator Company, Limited.** 28 Jl. 1881. II, **12**, 679 (**26**, 229), pls. 174, 175.
— **Vasquez e Just.** 27 J . 1872. II, **3**, 269 (**12**, 169).
— and vegetables. **Sacc.** 20 N. 1872. II, **3**, 596 (**12**, 406)—Ex. **4**, 335 (**13**, 315); **6**, 359 (**16**, 127); **7**, 328 (**17**, 280); **8**, 387 (**18**, 477).
— by cold. **Lancia.** 24 N. 1868. I, **5**, 366 (**8**, 437).
milk. **Gaupp.** 29 Jl. 1881. II, **12**, 686 (**26**, 236).
— **Klebs.** 28 Jl. 1881. II, **12**, 675 (**26**, 225).
— **Schmidt.** 28 Jl. 1881. II, **12**, 678 (**26**, 228).
— **Springmühl, Andreossi e Böhringer.** 28 Mr. 1879. II, **10**, 169 (**21**, 369).
sausage meat, liver, tripe, etc. **Merlotti.** 11 My. 1878. II, **9**, 287 (**20**, 142).
skins. **Payras.** 30 S. 1862. (**3**, 320.)*

PRESERVING—continued.
tomatoes. **Amoroso.** 27 S. 1879. II, **10**, 611 (**22**, 311), pl. 171.
vegetable substances by lead salts. **Rogé, Poret, Raffoy e Dupre.** 9 N. 1876. II, **7**, 536 (**17**, 489).
vegetables. **Lecourt et Guillemare.** 36 Je. 1877. II, **8**, 361 (**18**, 451.) Ad. **8**, 728 (**19**, 318).
— **Mariani.** 23 My. 1881. II, **12**, 432 (**25**, 482).
wine. **Montelatici e Baccigalupo.** 20 O. 1869. I, **6**, 384 (**9**, 401).
wines, liquors, etc. **Boake et Roberts.** 3 Je. 1881. II, **12**, 492 (**26**, 42).
wood. **Pansa.** 30 Je. 1856. (**1**, 181.)* (*Sardinia.*)

PRESS. *See also* Brick, Cider, Clay, Cloth, Copying, Cotton, Dough, Filter, Fodder, Fruit, Hair, Hat, Hay, Horn, Hydraulic, Hydrostatic, Lithographic, Oil, Peat, Photograph glazing, Plastic, Pneumatic, Printing, Screw and lever, Screw, Stamping, Sugar, Wine, Wool.
Barberis. 25 F. 1867. I, **4**, 78 (**7**, 217), pl. 24.
Berrean. 26 Ag. 1875. II, **6**, 453 (**10**, 221), pl. 106.
Calzoni. 7 F. 1876. II, **7**, 54 (**17**, 6), pl. 14. Ad. **12**, 295 (**25**, 345), pl. 69—Ex. **13**, 229 (**28**, 1).
Faget. 30 Mr. 1875. II, **6**, 147 (**15**, 415), pl. 29.
Giordan. 14 Ag. 1876. II, **7**, 402 (**17**, 354), pl. 99.
Gujon, Gatti e Agnese. 30 S. 1857. (**1**, 379.)* (*Sardinia.*)
Lahaussois. 18 S. 1877. II, **8**, 537 (**19**, 127), pl. 133.
Laurenzana. 13 S. 1870. II, **1**, 351 (**10**, 351), pl. 90.
Lombardo. 19 Jl. 1875. II, **6**, 382 (**16**, 150), pl. 84.
de Luca. 31 Ja. 1879. II, **10**, 38 (**21**, 238), pl. 10.
Manzetti. 30 Je. 1857. (**1**, 420.)* (*Sardinia.*)
Mure. 30 N. 1875. II, **6**, 630 (**16**, 398), pl. 154.
Picco. 29 O. 1877. II, **8**, 619 (**19**, 209), pl. 154.
Rossi. 28 My. 1881. II, **12**, 456 (**26**, 6), pl. 115.
Samain. 22 O. 1872. II. **3**, 471 (**12**, 371), 113.
Samain. 27 Ag. 1874. II, **5**, 424 (**15**, 33), pl. 100.
Société nouvelle des forges et chantiers de la Méditerranée. 31 Ja. 1879. II, **10**, 36 (**21**, 236), pl. 11.
Société Wohl et Cie. 8 Jl. 1878. II, **9**, 437 (**20**, 292), pl. 128.
Terrel-des-Chênes. 30 Mr. 1874. II, **5**, 140 (**14**, 249), pl. 32.
baling. **Wohl** 23 Jl. 1867. I, **4**, 244 (**7**, 384), pl. 79.
brick. **Schneider.** 11 Mr. 1882. II, **13**, 182 (**27**, 454), pl. 52.
capstan. **Picco.** 29 O. 1877. II, **8**, 619 (**19**, 209), pl. 154.
cheese. **Martin.** 20 D. 1873. II, **4**, 593 (**14**, 73), pl. 165—Ex. **6**, 14 (**15**, 282).
cider. **Debrosse.** 30 Ap. 1875. II, **6**, 211 (**15**, 479), pl. 43.
cloth. **Duplomb.** 30 D. 1859. (**2**, 291.)* (*Sardinia.*)
dough. **Edant.** 25 Mr. 1879. II, **10**, 148 (**21**, 348), pl. 51.
— **Long et fils.** 6 Ag. 1878. II, **9**, 489 (**20**, 344), pl. 150.
— **Pagliero fratelli e Ferraris.** 26 Ap. 1879. II, **10**, 238 (**21**, 438), pl. 68.
filter. **Bowing.** 8 My. 1877. II, **8**, 256 (**18**, 346), pl. 71.
— **Dehne.** 31 Mr. 1882. II, **13**, 277 (**28**, 49), pl. 74.
— **Lebée.** 21 Ag. 1873. II, **4**, 401 (**13**, 381), pl. 107.
— **de Ruffo Bonneval et Mouren.** 30 Je. 1863. (**4**, 22.)*
flour. **Massoni.** 26 Mr. 1867. I, **4**, 94 (**7**, 234), pl. 30.
fodder. **Leduc.** 18 Je. 1869. I, **6**, 249 (**9**, 265), pls. 80–82—Ex. II, **6**, 346 (**16**, 114); **6**, 347 (**16**, 115).
— **Leduc.** 24 Ap. 1871. II, **2**, 111 (**11**, 33), pls. 25, 26. Ad. **4**, 79 (**13**, 59), pls. 22, 23; **4**, 312 (**13**, 332), pl. 95—Ex. **5**, 326 (**14**, 435).
— **Tarizzo e Comp.** 22 Jl. 1876. II, **7**, 364 (**17**, 316), pl. 90.
hay. **Conteau.** 14 O. 1879. II, **10**, 660 (**22**, 360), pl. 181.
horn. **Robert et fils.** 28 F. 1878. II, **9**, 109 (**19**, 464), pl. 29.
hydraulic. **Decombe.** 12 D. 1880. II, **11**, 32 (**23**, 133), pl. 5.
oil. **Anselmi.** 16 Je. 1868. I, **5**, 201 (**8**, 271), pl. 63.
— **Behne.** 10 Ap. 1879. II, **10**, 205 (**21**, 405), pl. 61.
— **Cerretelli.** 29 Jl. 1871. II, **2**, 235 (**11**, 157), pl. 52.
— **Holt.** 20 Ag. 1880. II, **11**, 577 (**24**, 178), pl. 163.

PRESS, oil—continued.
— **Long.** 23 Mr. 1854. 72.* (*Sardinia.*)
— **de Morsier e Mengotti.** 15 S. 1873. II, **4**, 437 (**13**, 417), pl. 121.
— **Pavilowski, Aurignon et Cie.** 13 Ap. 1854. 74.* (*Sardinia.*)
— **de Roseti.** 30 S. 1856. (**1**, 266)—Ex. (, 11).* (*Sardinia.*)
— **Scharpe.** 20 N. 1867. I, **4**, 380 (**8**, 21), pl. 117.
— **Visconti.** 20 Jl. 1854. 91.* (*Sardinia.*)
— mat. **Garuti.** 31 D. 1880. II, **11**, 946 (**25**, 47).
— — **Guppy e Comp.** 31 My. 1879. II, **10**, 322 (**22**, 22), pl. 90.
— — iron. **Auger.** 18 Ag. 1854. 100.* (*Sardinia.*)
— sieve. **Biretti.** 12 Jl. 1879. II, **10**, 470 (**22**, 170), pl. 125.
— — **Guppy e Comp.** 16 Ag. 1879. II, **10**, 551 (**22**, 251), pl. 157.
— — **Lindemann.** 26 O. 1880. II, **11**, 750 (**24**, 351), pl. 219.
— — **Luciano e Campo.** 20 O. 1879. II, **10**, 689 (**22**, 389), pl. 186.
— — manipulating way. **Binetti.** 12 Jl. 1879. II, **10**, 471 (**22**, 171), pl. 131.
plastic. **Nagle.** 28 Je. 1878. II, **9**, 408 (**20**, 263), pls. 118, 119—Ex. **12**, 474 (**26**, 24).
pneumatic. **Trannin.** 4 N. 1880. II, **11**, 780 (**24**, 381), pl. 225.
screw. **Benini.** 30 S. 1863. (**4**, 110.)*
— and lever. **Boomer.** 22 S. 1873. II, **4**, 457 (**13**, 437), pl. 131.
sugar. **Pzillas.** 13 Jl. 1880. II, **11**, 470 (**24**, 71), pl. 133.
transmission. **Casentini.** 27 D. 1881. II, **12**, 1173 (**27**, 223), pl. 313.
vegetable. **Blot.** 23 Ja. 1875. II, **6**, 36 (**15**, 304), pl. 9. Ad. **6**, 304 (**16**, 72), pl. 67.
wine. **Bianchetta.** 29 N. 1865. I, **2**, 321 (**6**, 305), pl. 99—Ex. **5**, 442 (**9**, 13).
— **Bonini.** 20 Ag. 1877. II, **8**, 491 (**19**, 81), pl. 126.
— **Folli.** 13 Jl. 1872. II, **3**, 305 (**12**, 205), pl. 78.
— **de Morsier.** 16 Ag. 1879. II, **10**, 558 (**22**, 258), pl. 156.
— **Mure.** 12 D. 1878. II, **9**, 766 (**21**, 121), pl. 231.
— **Mure e Marmonier.** 31 Ja. 1879. II, **10**, 23 (**21**, 223), pl. 8.
— **Oomens.** 23 O. 1869. I, **6**, 391 (**9**, 407), pl. 130—Ex. II, **6**, 107 (**15**, 375).
— **Vignetta.** 27 S. 1879 II, **10**, 620 (**22**, 320). pl. 174.

PRESSURE gage. **Gottheil.** 7 My. 1874. II. **5**, 219 (**14**, 328), pl. 48.
— **Granaglia.** 31 Ja. 1876. II, **7**, 36 (**16**, 488), pl. 10.
— **Kaysser e Helwig.** 14 Je. 1877. II, **8**, 336 (**18**, 426), pl. 93.
— **Pollavini.** 2 S. 1872. II, **3**, 394 (**12**, 294).
— recorder. **Brouardel.** 20 F. 1880. II, **11**, 82 (**23**, 183), pl. 30.
regulator. **Casement.** 26 F. 1874. II, **5**, 65 (**14**, 174), pl. 12.
— **Olivieri.** 15 Ap. 1874. II, **5**, 172 (**14**, 231), pl. 37.
— **Unckel.** 26 Je. 1880. II, **11**, 434 (**24**, 35), pl. 129.
— cock. **Chameroy.** 28 Ag. 1871. II, **2**, 287 (**11**, 209), pl. 63.

PRINTER'S GALLEY with glass bottom. **Costa.** 14 Jl. 1864. I, **1**, 339 (**5**, 276), pl. 60.

PRINTING advertisements. **Dhonan.** 30 Jl. 1881. II, **12**, 713 (**26**, 263), pl. 183.
and numbering machine. **Bebro.** 24 F. 1881. II, **12**, 116 (**25**, 166), pl. 28.
bank notes. **Chezand.** 30 S. 1863. (**4**, 109.)* I, **1**, 79 (**5**, 15).
compound. **McIlwrait.** 15 S. 1873. II, **4**, 444 (**13**, 424).
cylinder making. **Sachs e Hunstone.** 13 Ag. 1880. II, **11**, 561 (**24**, 162)—Ex. **12**, 751 (**26**, 301).
form setter. **Van Dieren.** 16 Jl. 1881. II, **12**, 656 (**26**, 206), pl. 168.
imitation embroidery. **Beny.** 30 S. 1858. (**2**, 187.)* (*Sardinia.*)
— **Despreaux.** 31 D. 1861. (**3**, 190)* I, **1**, 114 (**5**, 50).
imitation marble. **Siebert.** 11 My. 1878. II, **9**, 283 (**20**, 138)—Ex. **10**, 345 (**22**, 45).
in colors. **Radde.** 14 Ag. 1876. II, **7**, 396 (**17**, 348), pl. 99.

PRINTING in colors—continued.
— **Schnitger**. 23 Je. 1879. II, **10**, 390 (**22**, 90).
— **White e Anderson**. 31 D. 1879. II, **10**, 866 (**23**, 66).
— **Worms**. 12 Je. 1876. II, **7**, 282 (**17**, 234), pl. 67.
in different colors, machine for. **Saroglia**. 24 S. 1864. I, **1**, 442 (**5**, 379), pl. 48.
in indigo. **Ribbert**. 11 Ja. 1882. II, **13**. 12 (**27**, 284).
in plastic colors. **Loewenberg**. 30 D. 1876. II, **9**, 810 (**21**, 165), pl. 240.
in several colors. **Saroglia**. 30 Je. 1863. (**4**, 18.)*
music. **Bianchi**. 31 D. 1855. (**1**, 195.)* (*Sardinia.*)
— **Loverdel**. 29 Je. 1874. II, **5**, 317 (**14**, 426), pl. 75.
on cloth. **Paraf**. 7 O. 1865. I, **2**, 261 (**6**, 245).
— **Parravicini**. 19 Je. 1880. II, **11**, 407 (**24**, 8).
— **Perrin**. 4 N. 1865. I, **2**, 306 (**6**, 290). Ad. **3**, 33 (**6**, 359).
— **Sachs**. 28 Je. 1879. II, **10**, 375 (**22**, 75).
— **Sachs e Mather**. 14 O. 1879. II, **10**, 662 (**22**, 362), pl. 181—Ex. **11**, 769 (**24**, 370).
— on both sides. **Pelaz**. 6 F. 1866. I, **3**, 28 (**6**, 354).
on pottery. **Sorrentini**. 19 N. 1867. I, **4**, 375 (**8**, 16).
preparing surface for. **Sachs**. 16 Ap. 1881. II, **12**, 326 (**25**, 376).
press. **Alissoff**. 20 N. 1874. II, **5**, 572 (**15**, 181), pl. 136.
— **Beech**. 29 N. 1875. II, **6**, 617 (**16**, 385), pl. 151.
— **Bodel, Masse e Webster**. 9 D. 1874. II, **5**, 593 (**15**, 202), pl. 142.
— **Bona**. 27 Je. 1876. II, **7**, 309 (**17**, 261), pl. 72.
— **Dangoise**. 30 Jl. 1878. II, **9**, 484 (**20**, 339), pls. 147–149.
— **dell' Orto**. 28 Mr. 1870. II, **1**, 133 (**10**, 133), pl. 32.
— **dell' Orto**. 14 N. 1874. II, **5**, 552 (**15**, 161), pl. 130.
— **dell' Orto**. 30 N. 1878. II, **9**, 747 (**21**, 102), pl. 226—Ex. **10**, 890 (**23**, 90).
— **Duncan e Wilson**. 9 O. 1873. II, **4**, 482 (**13**, 462), pl. 135.
— **Friedländer e Moeller**. 22 S. 1873. II, **4**, 455 (**13**, 435), pl. 121.
— **Godchaux**. 31 D. 1860. (**2**, 478.)* (*Sardinia.*)
— **Guy**. 28 O. 1878. II, **9**, 669 (**21**, 24), pl. 206.
— **Marinoni**. 31 D. 1872. II, **3**, 576 (**12**, 476), pl. 143.
— **Rivara**. 29 N. 1881. II, **12**, 1051 (**27**, 101), pls. 289, 290.
— **Rizzi e Gelmetti**. 26 D. 1877. II, **8**, 740 (**19**, 330), pl. 197.
— **Vannucchi**. 9 O. 1880. II, **11**, 693 (**24**, 294), pls. 201, 202.
— colors. **Schumann e Zelle**. 25 Ja. 1878. II, **9**, 30 (**19**, 385), pl. 5.
— — **Wright**. 3 Ag. 1881. II, **12**, 723 (**26**, 273), pl. 188.
— cylinder. **Maschinenfabrik Augsburg**. 31 Jl. 1879. II, **10**, 513 (**22**, 213), pl. 145.
— domestic. **de Silvestri**. 12 Ja. 1880. II, **11**, 7 (**23**, 108), pl. 3
— for the blind. **Ascenso**. 17 Jl. 1869. I, **6**, 290 (**9**, 306), pl. 98.
— gearing **Muggiani e Comp**. 31 O. 1881. II, **12**, 975 (**27**, 25), pl. 262.
— labels, tickets, etc. **Briggs**. 30 Ja. 1882. II, **13**, 68 (**27**, 340), pls. 19–21.
— numbering. **Bebro**. 14 Je. 1873. II, **4**, 273 (**13**, 253), pl. 72.
— pocket. **Martelli**. 30 Mr. 1877. II, **8**, 156 (**18**, 246), pl. 45.
— rotary. **Alauzet et Comp**. 16 N. 1878. II, **9**, 708 (**21**, 63), pl. 215. Ad. **10**, 27 (**21**, 227), pl. 9.
— sheet gatherer. **Huguet**. 15 My. 1854. 78.* (*Sardinia.*)
— visiting card. **d'Auria**. 26 F. 1874. II, **5**, 64 (**14**, 173), pl. 14.
roller. **Perrin**. 4 Ja. 1869. I, **6**, 11 (**9**, 27), pl. 5.
surface. **Devincenzi**. 30 Je. 1855. (**1**, 10.)* (*Sardinia.*)
— preparing. **Sachs**. 13 Jl. 1880. II, **11**, 479 (**24**, 80)—Ex. **12**, 700 (**26**, 250).

PROJECTILE. **Brandon**. 21 Ag. 1873. II, **4**, 405 (**13**, 385), pls. 108, 109. Ad. **4**, 616 (**14**, 96), pl. 169; **7**, 353 (**17**, 305), pl. 87; **8**, 455 (**19**, 45), pl. 118—Ex. **10**, 483 (**22**, 183). Ad. **11**, 224 (**23**, 325), pl. 64; **11**, 919 (**25**, 20); **12**, 1104 (**27**, 154), pl. 298.
Delorenzi. 31 Mr. 1862. (**3**, 251)*—Ex. I, **1**, 199 (**5**, 135).

PROJECTILE—continued.
Engstrom. 31 Mr. 1857. (**1**, 366.)* (*Sardinia.*)
Fitzmorris. 30 S. 1863. (**4**. 111.)*
Fontana. 13 S. 1871. II, **2**, 302 (**11**, 224).
Fornerod-Studler et Rubin. 26 D. 1877. II, **8**, 749 (**19**, 339), pl. 200.
Ganz e Comp. 30 Mr. 1877. II, **8**, 164 (**18**, 254), pl. 42—Ex. **11**, 155 (**23**, 256).
Jones. 23 Je. 1866. I, **3**, 147 (**6**, 473), pl. 44—Ex. **4**, 126 (**7**, 266).
Lindner. 31 Mr. 1858. (**2**, 36.)* (*Sardinia*)—Ex. I, **1**, 187 (**5**, 123).
McEvoy. 29 N. 1879. II, **10**, 787 (**22**, 487), pl. 217.
McLean e Coloney. 18 Mr. 1879. II, **10**, 143 (**21**, 343), pl. 50.
Mefford-Mefford. 27 Ja. 1882. II, **13**, 55 (**27**, 327), pl. 15.
Merlateau. 30 Mr. 1875. II, **6**, 149 (**15**, 417), pl. 30.
Nordenfeldt. 25 My. 1878. II, **9**. 335 (**20**, 190), pl. 89—Ex. **11**, 386 (**23**, 487).
Oeschger. 31 D. 1862. (**3**, 409.)*
Palliser. 23 Ap. 1866. I, **3**, 112 (**6**, 438).
Petrovitch. 30 Je. 1857. (**1**, 447.)* (*Sardinia.*)
alloy. **Bozza**. 30 D. 1866. I, **3**, 293 (**7**, 119).
carrying line. **Bertinetti**. 30 Je. 1855. (**1**, 60.)* (*Sardinia.*)
explosive. **Beebe**. 28 My. 1868. I, **5**, 148 (**8**, 218), pl. 39.
— **Gruson e Hellhoff**. 20 N. 1879. II, **10**, 774 (**22**, 474), pl. 213. Ad. **11**, 264 (**23**, 365), pl. 69.
— **Perniset ed al**. 31 O. 1867. I, **4**, 352 (**7**, 493), pl. 98.
— **Tensini**. 26 N. 1868. I, **5**, 373 (**8**, 444), pl. 116.
— **Valvassori**. 31 D. 1867. I, **4**, 421 (**8**, 62), pl. 127—Ex. II, **1**, 1 (**10**, 1).
— floating. **Chiadò**. 26 D. 1877. II, **8**, 748 (**19**, 338), pl. 200.
incendiary. **Cerruti**. 19 N. 1867. I, **4**, 376 (**8**, 17), pl. 111.
manufacture. **Tarr**. 28 My. 1868. I, **5**, 149 (**8**, 219), pl. 40.
orduance. **De Fornari**. 23 O. 1868. I, **5**, 351 (**8**, 421).
rifled. **Mackay**. 16 Ag. 1864. I, **1**, 415 (**5**, 352), pl. 42.
submarine. **Barletta**. 29 N. 1864. I, **1**, 503 (**5**, 440), pl. 82.
twirling. **Garibaldy**. 31 Mr. 1861. (**3**, 79.)*
uniform making tool. **Robertson**. 30 Je. 1863 (**4**, 24.)*

PROPELLER. *See also* Carriage.
Airaghi. 20 O. 1880. II, **11**, 724 (**24**, 325).
d'Alessandro. 15 O. 1869. I, **6**, 384 (**9**, 400), pl. 130.
Arnaud et Labriola. 31 Mr. 1862. (**3**, 241.)*
Aubert. 31 Mr. 1874. II, **5**, 143 (**14**, 252), pl. 28.
Bachelier. 15 Je. 1867. I, **4**, 192 (**7**, 332), pl. 66.
Balsamo. 31 My. 1879. II, **10**, 321 (**22**, 21), pl. 89.
Cattaneo. 5 Ag. 1871. II, **2**, 242 (**11**, 164), pl. 53.
Cattaneo. 23 O. 1880. II, **11**, 746 (**24**, 347), pl. 216.
Chagrot. 6 D. 1879. II, **10**, 807 (**23**, 7), pl. 228.
Coignard. 30 Je. 1860. (**2**, 402.)* (*Sardinia.*)
Cozza. 20 F. 1878. II, **9**, 75 (**19**, 430), pl. 17
Damiano. 25 Ja. 1881. II, **12**, 9 (**25**, 59), pl. 1.
Galli. 30 S. 1861. (**3**, 134.)*
Hirsch. 13 Jl. 1880. II, **11**, 489 (**24**, 90).
Hirsch. 28 Ja. 1881. II. **12**, 26 (**25**. 76), pl. 6.
de La Maronnière. 12 My. 1879. II, **10**, 275 (**21**, 429), pl. 78.
Landriani. 11 Ja. 1875. II, **6**, 3 (**15**, 271), pl. 1.
Lazzari. 10 My. 1880. II, **11**, 283 (**23**, 384), pl. 82.
de Maria. 22 D. 1875. II, **6**, 654 (**16**, 422), pl. 163—Ex. **9**, 826 (**21**, 181); **12**, 1182 (**27**, 232).
Merkl. 10 Ag. 1881. II, **12**, 728 (**26**, 278), pls. 189, 190.
Oram e Grove. 12 Ja. 1880. II, **11**, 14 (**23**, 115), pl. 5.
Orioli. 24 F. 1882. II, **13**, 134 (**27**, 406), pl. 46.
Privat. 30 S. 1857. (**1**, 450.)* (*Sardinia.*)
de Scalzi. 31 Mr. 1861. (**3**, 14)*—Ex. I, **1**, 195 (**5** 131).
Smith. 26 Ja. 1881. II, **12**, 17 (**25**, 67), pl. 4.
Spruyt de Bay. 26 Je. 1877. II, **8**, 354 (**18**, 444), pl. 96—Ex. **11**, 533 (**24**, 134); **12**, 622 (**26**, 172).
Trocé-Spinelli. 1 D. 1869. I, **6**, 449 (**9**, 465), pl. 144.
Valle. 31 D. 1862. (**3**, 383.)*
centrifugal. **Tagliamonte**. 9 Mr. 1876. II, **7**, 95 (**17**, 47), pl. 24.

PROPELLER—continued.
chain. **Canali.** 20 Ag. 1869. I, **6**, 321 (**9**, 337), pls. 107, 108.
gearing. **Tringuetta.** 21 Ag. 1876. II, **7**, 416 (**17**, 368), pl. 104.
paddle. **Arban.** 18 F. 1867. I, **4**, 54 (**7**, 193), pl. 20.
screw. **Aubert.** 26 N. 1868. I, **5**, 379 (**8**, 450), pl. 106.
— **Buogo.** 31 Mr. 1857. (**1**, 353.)* (*Sardinia.*)
— **Cooke e Mylchreest.** 23 F. 1881. II, **12**, 102 (**25**, 152), pl. 26.
— **Cardone.** 4 My. 1876. II, **7**, 217 (**17**, 169), pl. 52.
— **Fava e Arimani.** 21 O. 1875. II, **6**, 558 (**16**, 326), pl. 132.
— **Ferroni e Osimo.** 5 S. 1878. II, **9**, 547 (**20**, 402), pl. 169.
— **Fossa.** 31 D. 1861. (**3**, 152.)*
— **Hirsch.** 6 F. 1866. I, **3**, 29 (**6**, 355), pl. 8.
— **Kitt.** 15 S. 1874. II, **5**, 450 (**15**, 59), pl. 107.
— **Manby.** 30 S. 1863. (**4**, 82.)*
— **Merello.** 30 Mr. 1874. II, **5**, 129 (**14**, 238), pl. 28.
— **Patterson.** 20 Mr. 1875. II, **6**, 115 (**15**, 383), pl. 23.
— **Robertson.** 20 Mr. 1882. II, **13**, 207 (**27**, 479), pl. 57.
— **Rocca.** 21 Ap. 1876. II, **7**, 200 (**17**, 152), pl. 46—Ex. **8**, 203 (**18**, 293).
— **Rocca.** 31 Mr. 1879. II, **10**, 197 (**21**, 397), pl. 59.
— **Somzée.** 27 S. 1878. II, **9**, 585 (**20**, 440), pls. 181, 182.
— **Vansittart.** 28 N. 1868. I, **5**, 388 (**8**, 459), pl. 114—Ex. II, **2**, 474 (**11**, 396).
— double. **Santccanale.** 17 Ja. 1870. II, **1**, 11 (**10**, 11), pl. 2.
ship's. **Raphin.** 7 O. 1865. I, **2**, 263 (**6**, 247), pl. 75.
universal. **Kerkhove e Suyers.** 13 S. 1881. II, **12**, 825 (**26**, 375), pls. 219, 220.

PROPELLING. *See also* Car.
Maurer. 31 Mr. 1860. (**2**, 329.)* (*Sardinia.*)
boats. **Russo.** 2 N. 1877. II, **8**, 636 (**19**, 226), pl. 165.
ships. **Babbit.** 27 N. 1871. II, **2**, 426 (**11**, 348), pl. 89.
— **Burgh-Lawson.** 28 O. 1878. II, **9**, 655 (**21**, 10), pl. 200.
— **Ebaudy de Fresne.** 4 Ag. 1874. II, **5**, 369 (**14**, 478).
— **Gambaro e Molfino.** 30 N. 1875. II, **6**, 623 (**16**, 391), pl. 148—Ex. **9**, 235 (**20**, 90).
— **Goodrich.** 7 F. 1879. II, **10**, 56 (**21**, 256), pl. 17.
— **Hédiard.** 12 Mr. 1872. II, **3**, 85 (**11**, 485), pl. 20.
— **Henrion.** 11 Ag. 1867. I, **4**, 274 (**7**, 414), pl. 86. Ad. **4**, 301 (**7**, 414), pl. 94.
— **Kunstadter.** 18 S. 1877. II, **8**, 545 (**19**, 135), pl. 138—Ex. **9**, 629 (**20**, 485).
— **Kunstädter.** 18 Mr. 1879. II, **10**, 144 (**21**, 344), pl. 51—Ex. **11**, 46 (**23**, 147)—Ex. **12**, 37 (**25**, 87); **13**, 302 (**28**, 74).
— **Lagomaggiore.** 30 Ja. 1875. II, **6**, 41 (**15**, 309), pl. 9.
— **Leveaux.** 11 Ja. 1875. II, **6**, 8 (**15**, 276), pl. 2.
— **Rosselet.** 23 My. 1865. I, **2**, 147 (**6**, 131), pl. 32.
— **Salmon.** 22 My. 1866. I, **3**, 132 (**6**, 458), pl. 33. Ad. **5**, 283 (**8**, 353), pl. 82—Ex. II, **3**, 224, 225 (**12**, 124, 125).
— **Spill.** 15 D. 1874. II, **5**, 613 (**15**, 222), pl. 146—Ex. **6**, 664 (**16**, 432).
— **Trinchieri.** 17 Jl. 1868. I, **5**, 231 (**8**, 301), pl. 70.
— **Wilson.** 22 Je. 1881. II, **12**, 558 (**26**, 108), pl. 135.
— and balloons. **Leggo.** 20 O. 1879. II, **10**, 691 (**22**, 391), pl. 186—Ex. **10**, 901 (**23**, 101).
— and locomotives. **de Telescheff.** 19 Ag. 1873. II, **4**, 398 (**13**, 378), pl 106.
— in and above water. **Balboni.** 3 N. 1864. I, **1**, 489 (**5**, 426), pl. 79.
— inland. **Cattaneo.** 20 O. 1877. II, **8**, 615 (**19**, 205), pl. 152.
torpedo boats by carbonic acid and other gas. **Kellogg.** 29 Ag. 1881. II, **12**, 779 (**26**, 329), pl. 201.

PROTECTOR. *See* Car passenger, Car wheel, Chest, Grapevine. Nipple, Pencil, Plant, Trowsers, Vine.

PUDDLING FURNACE. **Espinasse.** 22 Jl. 1876. II, **7**, 379 **17**, 331), pl. 92.
Gigli ed al. 29 Ag. 1868. 1, **5**, 288 (**8**, 358), pl. 81.
Howatson. 11 Ap. 1874. II, **5**, 151 (**14**, 260), pl. 33.
Pernot. 23 Je. 1874. II, **5**, 289 (**14**, 398), pl. 66. Ad. **6**, 316 (**16**, 84), pl. 69—Ex. **11**, 420 (**24**, 21).
Pernot. 25 Je. 1874. II, **5**, 290 (**14**, 399), pl. 65.
Schneider et Comp. 12 D. 1878. II, **9**, 759 (**21**, 114), pls. 231-234.

PULLEY. **Giorgini.** 21 D. 1880. II, **11**, 880 (**24**, 481), pl. 253.
Nick. 6 Ag. 1872. II, **3**, 350 (**12**, 250), pl. 88.
Verlinde. 21 S. 1876. II, **7**, 466 (**17**, 418), pl. 115.
block. **Damien e Kister.** 27 My. 1873. II, **4**, 247 (**13**, 227).
— manufacture, metallic. **Damien e Kister.** 15 Ag. 1872. II, **3**, 365 (**12**, 265), pl. 95.
cable. **Agudio.** 18 D. 1865. I, **2**, 328 (**6**, 312), pl. 101.
compound. **Collet et Engelhard.** 25 Ap. 1878. II, **9**, 229 (**20**, 84), pl. 58.

PULP-WASHER. **Lespermont.** 4 N. 1871. II, **2**, 394 (**11**, 316), pl. 58.

PULVERIZER. *See also* Bark, Dyewood, Ore, Peat.
Pinasco. 31 Ag. 1876. II, **7**, 432 (**17**, 384), pl. 107.

PULVERIZING pozzolana. **Perfetti, Mezzetti e Comp.** 7 Mr. 1881. II, **12**, 166 (**25**, 216).

PUMP. *See also* Steam boiler feed, Steam.
Adorno. 30 D. 1876. II, **7**, 637 (**18**, 90), pl. 159.
Amos. 31 D. 1863. (**4**, 120.)*
Bacigalupo. 31 Mr. 1857. (**1**, 354.)* (*Sardinia.*)
Bale et Edwards. 26 Jl. 1880. II, **11**, 511 (**24**, 112), pl. 145.
Barorero. 10 O. 1867. I, **4**, 334 (**7**, 475), pl. 104.
Barthe. 14 Mr. 1868. I, **5**, 46 (**8**, 116), pl. 13.
Belloti. 27 Je. 1881. II, **12**, 579 (**26**, 129), pl. 146.
Biard. 10 N. 1876. II, **7**, 547 (**17**, 500), pl. 139—Ex. **9**, 15 (**19**, 370).
Borello fratelli. 28 Je. 1879. II, **10**, 413 (**22**, 113), pl. 118. Ad. **12**, 360 (**25**, 410), pl. 90.
Bretonnière. 18 Mr. 1879. II, **10**, 131 (**21**, 331), pl. 42.
Brotherhood. 20 F. 1874. II, **5**, 59 (**14**, 168), pl. 13.
Bruyas. 10 N. 1877. II, **8**, 646 (**19**, 236), pl. 170.
Campiglio e Lossa. 19 Jl. 1875. II, **6**, 380 (**16**, 148), pl. 80.
Canonica. 30 Je. 1855. (**1**, 3.)* (*Sardinia.*)
Catelani e Wolf. 8 Ag. 1873. II, **4**, 377 (**13**, 357), pl. 100.
Chamolle. 27 Je. 1876. II, **7**, 312 (**17**, 264), pl. 74.
Conte. 20 N. 1874. II, **5**, 570 (**15**, 179), pl. 134.
Conte. 18 Je. 1875. II, **6**, 312 (**16**, 80), pl. 69.
Cremona. 15 N. 1877. II, **8**, 657 (**19**, 247), pl. 173. Ad. **10**, 151 (**21**, 351), pl. 52.
Dabbene. 27 F. 1882. II, **13**, 139 (**27**, 411), pl. 42.
Dacomo. 30 S. 1863. (**4**, 77.)*
Damiano. 17 Jl. 1880. II, **11**, 496 (**24**, 97), pl. 143. Ad. **12**, 598 (**26**, 148), pl. 149.
Davis. 15 F. 1879. II, **10**, 77 (**21**, 277), pl. 22.
Delord. 18 N. 1880. II, **11**, 811 (**24**, 412), pl. 233—Ex. **12**, 1084 (**27**, 134).
Deretti. 6 Ag. 1878. II, **9**, 487 (**20**, 342), pl. 150.
Dolgorouky. 28 O. 1878. II, **9**, 652 (**21**, 7), pl. 204. Ad. **10**, 587 (**22**, 287), pl. 166.
Enrico. 14 O. 1879. II, **10**, 678 (**22**, 378), pl. 182.
Fauler. 8 F. 1882. II, **13**, 88 (**27**, 360), pl. 29.
Ferrari. 7 D. 1878. II, **9**, 755 (**21**, 110), pl. 230—Ex. **11**, 875 (**24**, 476).
Forbes. 18 Mr. 1879. II, **10**, 134 (**21**, 324), pl. 41.
Fornari. 26 N. 1870. II, **1**, 391 (**10**, 391), pl. 101.
Friedmann. 12 Mr. 1874. II, **5**, 97 (**14**, 206), pl. 22.
Garvens. 5 My. 1879. II, **10**, 264 (**21**, 464), pl. 75.
Girard. 17 Je. 1870. II, **1**, 246 (**10**, 246), pls. 61, 62.
Giraud. 18 Jl. 1870. II, **1**, 299 (**10**, 299).
Giuliani. 15 Ag. 1872. II, **3**, 359 (**12**, 259), pl. 91.
Grattini. 11 D. 1875. II, **6**, 652 (**16**, 420), pl. 164.
Greindl. 10 Mr. 1875. II, **6**, 104 (**15**, 372), pl. 21—Ex. **9**, 173 (**20**, 28).
Gütermilch. 15 S. 1873. II, **4**, 446 (**13**, 426), pl. 122.
Ionghi. 11 Mr. 1865. I, **2**, 64 (**6**, 48), pl. 1.
Jeandet e Macchiavello. 30 N. 1874. II, **5**, 574 (**15**, 183), pl. 135.
Jouve. 30 D. 1860. (**2**, 442.)* (*Sardinia.*)
Kaiser. 21 D. 1880. II, **11**, 881 (**24**, 482), pl. 254.
Laneri. 31 D. 1856 (**1**, 307.)* (*Sardinia.*)
Lanfranco. 11 N. 1873. II, **4**, 551 (**14**, 31), pl. 151.
Lucacchini e Migone. 30 S. 1857. (**1**, 475.)* (*Sardinia.*)
Lüders. 25 Ag. 1877. II, **8**, 502 (**19**, 92), pl. 127—Ex. [illegible] **9**, 553 (**20**, 408).
Mamley. 31 D. 1863. (**4**, 155.)*
Maneng. 30 Jl. 1881. II, **12**, 712 (**26**, 262), pl. 180.
Martina. 11 Ag. 1869. I, **6**, 319 (**9**, 335), pl. 108.
Mazza. 31 Mr. 1863. (**3**, 482.)*

PUMP—continued.
McFarland. 14 Ja. 1874. II, **5**, 11 (**14**, 120), pl. 1.
Minisini. 28 Jl. 1877. II, **8**, 440 (**19**, 30), pl. 114.
Morin. 13 Jl. 1880. II, **11**, 490 (**24**, 91), pl. 139.
Morselli. 8 Je. 1875. II, **6**, 292 (**16**, 60), pl. 65.
Nash. 14 Ap. 1882. II, **13**, 320 (**28**, 92), pl. 86.
Oddini. 30 S. 1857. (**1**, 445.) Ad. (**1**, 43).* (*Sardinia.*)
Ortmans. 19 Je. 1876. II, **7**, 291 (**17**, 243), pl. 70.
Ortmans. 18 S. 1877. II, **8**, 538 (**19**, 128), pl. 135.
Pernot. 9 Jl. 1879. II, **10**, 450 (**22**, 150), pl. 127.
Picco. 30 Je. 1863. (**3**, 469.)*
Pignière. 23 Ap. 1873. II, **4**, 194 (**13**, 174), pl. 52.
Poggiolini. 8 Ag. 1874. II, **5**, 388 (**14**, 497), pl. 91.
Prunier. 10 O. 1877. II, **8**, 573 (**19**, 163), pl. 143.
Rauchfuss. 27 S. 1879. II, **10**, 636 (**22**, 336), pl. 176.
Robins. 14 My. 1874. II, **5**, 227 (**14**, 336), pl. 57.
Rouvière. 31 Mr. 1862. (**3**, 244.) Ad. (**1**, 120).*
Samain. 25 My. 1880. II, **11**, 340 (**23**, 441), pls. 96, 97.
Schwarz. 29 Ag. 1881. II, **12**, 774 (**26**, 324), pl. 198.
Sherman e Goldsmith. 16 Jl. 1875. II, **6**, 372 (**16**, 140), pl. 81.
Stigler. 5 N. 1869. I, **6**, 406 (**9**, 422), pl. 134.
Taverdon e Roulina. 18 Mr. 1879. II, **10**, 114 (**21**, 314), pl. 36.
Terrachini. 10 Ap. 1872. II, **3**, 147 (**12**. 47), pl. 38.
Torsegno e Gambaro. 30 Je. 1856. (**1**, 179.)* (*Sardinia.*)
Tower. 20 N. 1880. II, **11**, 823 (**24**, 424), pl. 237.
Trezzi. 28 Ap. 1873. II, **4**, 201 (**13**, 181), pl. 51.
Van Royen, Van Rennes e Baudet. 24 S. 1875. II, **6**, 501 (**16**, 269), pl. 121. Ad. **7**, 369 (**17**, 321), pl. 91—Ex. **7**, 370 (**17**, 322).
Viglino e Donna. 24 My. 1876. II, **7**, 254 (**17**, 206), pl. 59 Ad. **7**, 461 (**17**, 413), pl. 104; **8**, 15 (**18**, 105), pl. 3.
Villebonnet. 9 N. 1881. II, **12**, 982 (**27**, 32), pl. 265.
Vivaldi. 30 Je. 1857. (**1**, 405.)* (*Sardinia.*)
Weyhe. 30 Mr. 1876. II, **7**, 158 (**17**, 110), pl. 36.
Wyss e Studer. 22 D. 1873. II, **4**, 606 (**14**, 86), pl. 169.
air. **Ascenzi.** 6 Mr. 1879. II, **10**, 107 (**21**, 307), pl. 33.
— **Egells.** 19 Je. 1880. II, **11**, 405 (**24**, 6), pl. 122. Ad. **12**, 842 (**26**, 392).
— **Engelson.** 31 Ag. 1881. II, **12**, 808 (**26**, 358), pl. 211.
and night-soil excavator, combined air. **Liernur.** 2 Je. 1868. I, **5**, 185 (**8**, 255), pl. 55.
and pneumatic apparatus. **George.** 25 Ja. 1865. I, **2**, 21 (**6**, 5), pl. 2.
beer. **Barlet.** 28 Ag. 1877. II, **8**, 514 (**19**, 104), pl. 129.
beverage. **Asselin e Hardy.** 12 Ag. 1875. II, **6**, 421 (**16**, 189), pl. 95.
centrifugal. **Coignard.** 30 Je. 1863. (**4**, 52)*—Ex. I, **1**, 151 (**5**, 87).
— **Coignard.** 27 Ap. 1864. I, **1**, 164 (**5**, 100), pl. 16.
— **Cozza.** II, **9**, 74 (**19**, 429), pl. 16.
— **Dragoni.** 6 My. 1867. I, **4**, 137 (**7**, 277), pl. 41. Ad. **4**, 428 (**8**, 69), pl. 124.
— **Fontana e Manini.** 15 D. 1879. II, **10**, 839 (**23**, 30), pl. 233. Ad. **11**, 897 (**24**, 498).
— **Gwynne.** 23 S. 1862. (**3**, 343)*—Ex. I, **1**, 430 (**5**, 367); **1**, 467 (**5**, 404).
— **Jaussen.** 14 My. 1864. I, **1**, 231 (**5**, 167), pl. 20.
— **Nagel e Kaemp.** 12 O. 1874. II, **5**, 501 (**15**, 110), pl. 118.
chain. **Astolfi.** 16 N. 1878. II, **9**, 690 (**21**, 45), pl. 210.
— **Bonsignore.** 12 O. 1880. II, **11**, 701 (**24**, 302), pl. 204. Ad. **12**, 652 (**26**, 202), pl. 167.
— **Cutroneo.** 30 Ap. 1880. II, **11**, 276 (**23**, 377), pl. 81.
— **Faraldi.** 6 Ag. 1878. II, **9**, 497 (**20**, 352), pl. 151.
— **Muscella.** 30 S. 1875. II, **6**, 523 (**16**, 291), pl. 128.
— **Roman.** 30 S. 1869. I, **6**, 361 (**9**, 377), pl. 124.
— **Santi.** 22 O. 1874. II, **5**, 491 (**15**, 100), pl. 113.
compressed air. **Lossa.** 31 D. 1870. II, **1**, 422 (**10**, 422), pl. 104.
decanting. **Appé.** 20 Ap. 1880. II, **11**, 231 (**23**, 332), pl. 68.
fluid-compressing. **Sommeiller.** 31 Mr. 1860. (**2**, 356.)* (*Sardinia.*)
hydraulic. **Conti.** 8 My. 1869. I, **6**, 178 (**9**, 194), pl. 55.
hydropneumatic. **Jarre.** 23 Mr. 1869. I, **6**, 113 (**9**, 129), pl. 34.
irrigating. **Ferrari.** 20 Ap. 1877. II, **8**, 217 (**18**, 307), pl. 61.
— **Rossi.** 28 F. 1879. II, **10**, 105 (**21**, 305), pl. 30.

PUMP—continued.
mixing. **Mertoli.** 28 Ap. 1877. II, **8**, 518 (**19**, 108), pl. 130.
portable. **Bertarelli.** 1 D. 1869. I, **6**, 447 (**9**, 463), pl. 145.
— **Rives.** 31 D. 1872. II, **3**, 575 (**12**, 475), pl. 134.
rotary. **Liguori.** 28 O. 1865. I, **2**, 296 (**6**, 280), pl. 79.
— **Quiri et Cie.** 14 My. 1880. II, **11**, 306 (**23**, 407), pl. 84.
— **Simmons e Whitley.** 25 Ja. 1878. II, **9**, 24 (**19**, 379), pl. 70.
— pressure. **Rossi.** 30 S. 1856. (**1**, 262.)* (*Sardinia.*)
— screw. **Pelizzola.** 23 Je. 1881. II, **12**, 566 (**26**, 116), pl. 140.
ship-raising. **Vassallo.** 26 D. 1876. II, **7**, 605 (**18**, 58), pl. 155.
ship's. **Minisini e Gordolon.** 19 My. 1875. II, **6**, 262 (**16**, 30), pl. 59.
steam. **Decker e Compagnia.** 5 O. 1872. II, **3**, 449 (**12**, 349), pl. 109.
— **Musciacco.** 31 My. 1879. II, **10**, 317 (**22**, 17), pl. 90. Ad. **10**, 871 (**23**, 71), pl. 248.
— **Samuel.** 29 Ap. 1868. I, **5**, 93 (**8**, 163), pl. 20; II, **1**, 349 (**10**, 349), pls. 93–95.
PUMPING ships. **Minisini, Howe e Fama.** 20 O. 1879. II, **10**, 692 (**22**, 392), pls. 187, 188—Ex. **11**, 657 (**24**, 258).
PURIFIER. *See* Air, Gas illuminating, Gas, Middlings, Steam-boiler feed-water.
PUZZLE. **Ghezzi.** 4 Ja. 1869. I, **6**, 7 (**9**, 23), pl. 1.
PYROMETER, gas. **Leroy ed al.** 7 Jl. 1866. I, **3**, 171 (**6**, 497), pl. 52.
PYROTECHNIC signal. **Linton.** 16 My. 1876. II, **7**, 230 (**17**, 182), pl. 54.
— **Very.** 4 Jl. 1878. II, **9**, 420 (**20**, 275), pl. 124—Ex. **10**, 294 (**21**, 494).
QUADRANT and sextant. **Lane.** 30 S. 1857. (**2**, 18.)* (*Sardinia.*)
QUILT. **Delpiano.** 31 D. 1861. (**3**, 177.)*
QUILTING. **Bianchi.** 20 Ja. 1877. II, **8**, 21 (**18**, 111), pl. 4.
machine. **Ripamonti.** 30 Mr. 1876. II, **7**, 152 (**17**, 104).
RACK. *See* Fire-arm.
RAG-ENGINE. **Girard.** 30 S. 1861. (**3**, 95.)*
knife. **Lussagnet.** 8 My. 1869. I, **6**, 175 (**9**, 191), pl. 52.
RAILING. **Simondi.** 25 My. 1877. II, **8**, 292 (**18**, 382), pl. 79. Ad. **8**, 530 (**19**, 120).
machine to make iron and copper. **Fornara.** 28 Je. 1867. I, **4**, 203 (**7**, 343), pl. 65.
RAILWAY. *See also* Hydraulic.
Copland. 19 Ag. 1873. II, **4**, 392 (**13**, 372), pl. 102—Ex. **10**, 579 (**22**, 279).
Cottrau. 13 Mr. 1868. I, **5**, 27 (**8**, 97), pl. 6.
Crockford. 6 Ap. 1866. I, **3**, 83 (**6**, 409), pl. 24.
Gayda. 20 O. 1877. II, **8**, 609 (**19**, 199), pl. 150.
Girard. 17 Je. 1870. II, **1**, **246** (**10**, 246), pls. 61, 62.
Hilf. 22 F. 1866. I, **3**, 44 (**6**, 370), pl. 13.
Jouffroy. 31 Mr. 1857. (**1**, 370.)* (*Sardinia*)—Ex. (**1**, 19).
Larmanjat. 26 N. 1868. I, **5**, 370 (**8**, 441), pl. 107. Ad. **6**, 469 (**9**, 485), pl. 151.
Lo-Presti. 22 D. 1868. I, **5**, 433 (**9**, 4), pls. 134–145.
Lué. 18 N. 1870. II, **1**, 390 (**10**, 390), pl. 101—Ex. **4**, 3 (**12**, 483).
Lué. 31 My. 1872. II, **3**, 213 (**12**, 113), pl. 62.
Mancel de Valdoner. 30 S. 1855. (**1**, 48.)* (*Sardinia.*)
Pirot-Meissonnier et Compagnie. 9 N. 1876. II, **7**, 526 (**17**, 479), pls. 134, 135.
Riggenbach e Zschokke. 19 Ag. 1873. II, **4**, 397 (**13**, 377), pl. 105.
Sankey. 30 Je. 1858. (**2**, 107.)* (*Sardinia.*)
Sharpe. 31 Mr. 1863. (**3**, 466.)*
Spooner e Huddart. 22 F. 1870. II, **1**, 74 (**10**, 74), pl. 12.
Tiranoff. 14 Jl. 1870. II, **1**, 293 (**10**, 293), pl. 74.
accident preventing. **Guende.** 16 O. 1880. II, **11**, 722 (**24**, 323), pl. 213.
— **Nicolet.** 21 D. 1880. II, **11**, 884 (**24**, 485), pl. 255.
aërial. **Brunetta.** 5 Ag. 1871. II, **2**, 243 (**11**, 165), pl. 54.
alarm, electric. **Cattaneo.** 9 F. 1881. II, **12**, 71 (**25**, 121), pl. 20.
buffer. **de Longrée.** 1 Ag. 1852. 34.* (*Sardinia.*)
car classifier. **David.** 25 Ag. 1877. II, **8**, 499 (**19**, 89), pl. 127.

RAILWAY—continued.

chair. **Camus, Petit et Giboire.** 30 Je. 1863 (**4**, 37)*—Ex. I, **1**, 280 (**5**, 215). Ad. **1**, 325 (**5**, 261), pl. 55—Ex. **3**, 182 (**7**, 8).
— **Desgoffe et Jucqueau.** 31 D. 1859. (**2**, 315.)* (*Sardinia.*)
— **Guillaume, Grenier et Goschler.** 19 Ja. 1860.* (*Austria*)—Ex. I, **1**, 147 (**5**, 83).
— **MacLellan e Smith.** 12 D. 1876. II, **7**, 591 (**18**, 44), pl. 153.
— **Potel.** 9 Ap. 1877. II, **8**, 178 (**18**, 268), pl. 49.
— **Zetter.** 28 Ap. 1882. II, **13**, 370 (**28**, 142), pl. 94.
— steel spring. **Guillet.** 4 D. 1866. I, **3**, 278 (**7**, 104), pl. 78.
collision buffer. **Agnese.** 30 Je. 1859. (**2**, 239.)* (*Sardinia.*)
collision, preventing. **Girand.** 4 Ja. 1869. I, **6**, 8 (**9**, 24). Ad. **6**, 22, 114, 197, 329 (**9**, 38, 130, 213, 345), pls. 37, 64.
— **Pagliari.** 31 Mr. 1861. (**2**, 493.)*
cross-tie. **Beaufumé.** 24 Ja. 1870. II, **1**, 27 (**10**, 27), pl. 4.
— **Bergeron.** 28 F. 1871. II, **2**, 51 (**10**, 473), pl. 8. Ad. **3**, 255 (**12**, 155), pl. 67.
— **Piazzi.** 19 Je. 1872. II, **3**, 260 (**12**, 160), pl. 71.
— iron. **Rigolier.** 30 S. 1862. (**3**, 303.) Ad. (**1**, 145)*—Ex. I, **2**, 158 (**6**, 142); **2**, 177 (**6**, 161); **5**, 195 (**8**, 265).
curve. **Paraz.** 31 D. 1867. I, **4**, 415 (**8**, 56), pl. 123.
earthworks. **Corbin.** 30 Ag. 1871. II, **2**, 290 (**11**, 212), pl. 60.
electric. **Ivaldi e Gasca.** 27 Mr. 1882. II, **13**, 243 (**28**, 15), pl. 62.
elevated. **Ferretti.** 20 F. 1880. II, **11**, 81 (**23**, 182), pl. 30.
— **Hodgson.** 20 Mr. 1869. I, **6**, 107 (**9**. 123), pl. 27. Ad. II, **1**, 32 (**10**, 32), pl. 5—Ex. **6**, 132 (**15**, 400).
— **Howe et Chapelle.** 9 N. 1881. II, **12**, 998 (**27**, 48), pl. 272.
— **Olivotto.** 20 Je. 1873. II, **4**, 286 (**13**, 266), pl. 78.
— velocipede. **Cattaneo.** 10 My. 1880. II, **11**, 288 (**23**, 389), pl. 82.
fish-plate. **Acaster.** 29 S. 1877. II, **8**, 564 (**19**, 154), pl. 140.
— **Beneck, Ramay et Blanchard.** 31 D. 1861. (**3**, 236.)*
— **Grandis.** 31 D. 1858. (**2**, 173.) Ad. (**1**, 36).* (*Sardinia.*)
— **Houllier.** 31 Mr. 1880. II, **11**, 191 (**23**, 292), pl. 55.
— **Roland.** 8 F. 1878. II, **9**, 52 (**19**, 407), pl. 12.
gate. **Leblanc** 15 S. 1879. II, **10**, 591 (**22**, 291), pl. 167.
gradient. **Agudio.** 30 Je. 1856. (**1**, 215.)* (*Sardinia.*)
— **Agudio.** 31 Mr. 1861. (**3**, 19.)*
— **Baccelli.** 22 Mr. 1876. II, **7**, 123 (**17**, 75), pl. 29.
— **Benati e Gastaldon.** 30 S. 1856. (**1**, 284.)* (*Sardinia.*)
— **Coletti.** 10 F. 1865. I, **2**, 48 (**6**, 32), pl. 11.
— **Duparquet.** 31 Mr. 1856. (**1**, 178.)* (*Sardinia.*)
— **Duparquet.** 30 S. 1857. (**1**, 482.)* (*Sardinia.*)
— **Giovenzana.** 30 S. 1860. (**2**, 458.)* (*Sardinia.*)
— **Grassi.** 30 Je. 1855. (**1**, 58.)* (*Sardinia*)—Ex. I, **1**, 176 (**5**, 112).
— **Mandet.** 30 S. 1862. (**3**, 323.)* Ad. (**1**, 122).
— **Pecora.** 9 D. 1874. II, **5**, 597 (**15**, 206), pl. 145.
— **Riggenbach.** 18 Jl. 1878. II, **9**, 444 (**20**, 299), pls. 130–132.
— **Sironi.** 13 S. 1869. I, **6**, 348 (**9**, 364), pls. 120, 121.
— **Tomatis.** 9 S. 1864. I, **1**, 421 (**5**, 358), pl. 44. Ad. **2**, 124 (**6**, 108).
— **Velini.** 12 My. 1864. *Descrizione*, vii, p. 62. I, **1**, 207–209 (**5**, 143–145).
— and curve. **Barrault.** 31 Mr. 1860. (**2**, 327.)* (*Sardinia.*)
— helix. **Resio.** 31 Mr. 1856. (**1**, 177.)* (*Sardinia.*)
— hydraulic. **Cerroti.** 30 S. 1856. (**1**, 224.)* (*Sardinia.*)
— wheel. **Campiglio.** 30 Jl. 1869. I, **6**, 282 (**9**, 298), pl. 93.
hydraulic. **Girard e Sarti.** 20 S. 1858. (**2**, 156.)* (*Sardinia.*)
— **Panet.** 20 Ag. 1856. (**1**, 293.)* (*Sardinia.*)
iron manufacture. **Baines.** 5 F. 1870. II, **1**, 53 (**10**, 53), pl. 8—Ex. **4**, 35 (**13**, 15).

RAILWAY—continued.

key. **Poignand.** 31 D. 1855. (**1**, 110.)* (*Sardinia.*)
— manufacture. **Chevillet.** 30 Je. 1857. (**1**, 413.)* (*Sardinia.*)
ladder hydraulic. **Coda-Canati.** 31 Mr. 1856. (**1**, 131.) Ad. (**1**, 11).* (*Sardinia.*)
locomotion. **Loubat.** 31 Mr. 1864. (**4**, 198.)* Ad. I, **2**, 322 (**6**, 306), pl. 102—Ex. I, **1**, 223 (**5**, 159).
map. **Pozzo fratelli.** 15 S. 1876. II, **7**, 454 (**17**, 406), pl. 110. Ad. **7**, 573 (**18**, 26), pl. 145.
movable. **Bogetto.** 30 Je. 1857. (**1**, 437.)* (*Sardinia.*)
obviating dust. **Merighi.** 30 Je. 1858. (**2**, 126.)* (*Sardinia.*)
pneumatic. **Edwards.** 30 S. 1863. (**4**, 114)*—Ex. I, **1**, 434 (**5**, 371). Ad. I, **1**, 498 (**5**, 435), pl. 79.
— **Ponsetti.** 30 S. 1858. (**2**, 152.)* (*Sardinia.*)
— **Quaranta.** 7 D. 1875. II, **6**, 636 (**16**, 404), pls. 156–160. Ad. **7**, 319 (**17**, 271), pl. 75.
— **Taverna.** 30 S. 1857. (**1**, 459.)* Ad. (**1**, 1.)* (*Sardinia.*)
preventing injury from collision on. **Piola.** 7 My. 1864. 1, **1**, 201 (**5**. 137), pl. 18.
propeller, gradient. **Piatti.** 30 Je. 1861. (**3**, 42.) Ad. (**1**, 103).*
propulsion, screw. **Ferretti.** 20 My. 1871. II, **2**, 125 (**11**, 47), pl. 28.
rail. **d'Avezedo e de Greef.** 20 F. 1875. II, **6**, 73 (**15**, 341), pl. 15. Ad. II, **6**, 392 (**16**, 160), pl. 88.
— **Bergman.** 6 D. 1876. II, **7**, 576 (**18**, 29), pl. 150.
— **Butterworth.** 30 Je. 1857. (**1**, 402.)* (*Sardinia.*)
— **Chiara.** 30 S. 1858. (**2**, 134.)* (*Sardinia.*)
— **Chiesa e Rougier.** 10 Ap. 1879. II, **10**, 208 (**21**, 408), pl. 62.
— **Hunebelle.** 11 My. 1881. II, **12**, 400 (**25**, 450), pl. 98.
— **Ponsard.** 3 D. 1866. I, **3**, 258 (**7**, 84), pl. 73.
— **Veauvy.** 13 S. 1871. II, **2**, 306 (**11**, 228), pl. 68.
— **Zagury.** 16 S. 1878. II, **9**, 558 (**20**, 413), pl. 173.
— and chair fastening. **Henfrey.** 31 Mr. 1856. (**1**, 159.)* (*Sardinia.*)
— and wheel. **Lué.** 30 Je. 1858. (**2**, 114.)* (*Sardinia.*)
— — **Lué.** 30 Je. 1861. (**3**, 51)*—Ex. **1**, **183** (**5**, 119)
— — **Mazza.** 30 Je. 1863. (**3**, 492.)*
— bending machine. **Rogé.** 31 Mr. 1862. (**3**, 228)*—Ex. I, **1**, 132 (**5**, 68); **5**, 134 (**8**, 204).
— coupling. **Ibbotson e Ibbotson.** 23 Mr. 1870. II, **1**, 112 (**10**, 112), pl. 23.
— fastening. **Aldred.** 19 Je. 1878. II, **9**, 399 (**20**, 254), pl. 117.
— — **Denys.** 22 My. 1869. 1, **6**, 206 (**9**, 222), pl. 71.
— — **de Fontaine-Moreau.** 14 Ja. 1854. 82.* (*Sardinia.*)
— — **Legrande.** 9 Ag. 1867. I, **4**, 267 (**7**, 407), pl. 83.
— — **MacNeale.** 24 D. 1878. II, **9**, 789 (**21**, 144), pl. 237.
— — **Serena.** 21 Ap. 1866. I, **3**, 103 (**6**, 429), pl. 30.
— — **Spencer.** 18 Je. 1854. 85.* (*Sardinia.*)
— — **Vautherin.** 27 Ap. 1881. II, **12**, 369 (**25**, 419), pl. 89.
— fixing. **Burstow.** 28 Ag. 1877. II, **8**, 510 (**19**, 100), pl. 130.
— hoister. **Manier.** 25 Mr. 1876. II, **7**, 145 (**17**, 97), pl. 32.
— increasing adhesion of wheels. **Howel.** 25 O. 1865. I, **2**, 283 (**6**, 267), pl. 80.
— — **Vescoradi.** 13 O. 1865. I, **2**, 279 (**6**, 263), pl. 78. Ad. **3**, 174 (**6**, 500), pl. 55.
— joint. **Chapin.** 22 F. 1873. II, **4**, 91 (**13**, 71), pl. 25.
— — **Dering.** 21 Mr. 1865. 1, **2**, 79 (**6**, 63).
— — **Société Nepveu et Cie.** 30 Je. 1855. (**1**, 39.)* (*Sardinia.*)
— leveling car. **Villanis.** 31 Mr. 1861. (**3**, 23.)*
— manufacture. **Novello.** 30 S. 1863. (**4**, 100)*—Ex. I, **1**, 137 (**5**, 73).
— replacing machine. **Baines.** 31 Mr. 1871. II, **2**, 44 (**10**, 466), pl. 6—Ex. **5**, 50 (**14**, 159).
— street. **Golzio, Gallas de Gilbert et d'Adhémar.** 30 Je. 1857. (**1**, 407.)* (*Sardinia.*)
rolling stock. **Balbi.** 26 O. 1864. I, **1**, 483 (**5**, 420), pl. 78.
safety device. **Roche.** 12 Mr. 1866. I, **3**, 51 (**6**, 377), pls. 14, 15.

RAILWAY—continued.
sand box. **Profitt et Duncan.** 31 D. 1863. (**4**, 162)*—Ex. I, **1**, 194, 558 (**5**, 130, 495); **3**, 16 (**6**, 342); **4**, 23 (**7**, 162); **5**, 47 (**8**, 117).
signal. **Bachrich.** 20 S. 1880. II, **11**, 632 (**24**, 233), pl. 181.
— **Dufau.** 30 S. 1857. (**1**, 490.)* (*Sardinia.*)
— **Farmer e Tyer.** 17 Ap. 1875. II, **6**, 181 (**15**, 449), pl. 36.
— **Guano.** 30 Ap. 1877. II, **8**, 233 (**18**, 323), pls. 65, 66.
— **Henning.** 26 N. 1880. II, **11**, 834 (**24**, 435), pl. 245.
— **Jacqueau et Desgoffe.** 31 D. 1859. (**2**, 309.)* (*Sardinia.*)
— **Lamonica.** 7 F. 1877. II, **8**, 55 (**18**, 145).
— **Organo.** 16 Jl. 1875. II, **6**, 371 (**16**, 139), pl. 81.
— between trains. **Biondi.** 9 My. 1875. II, **6**, 259 (**16**, 27), pl. 58.
— block. **Flamache.** 18 Ap. 1882. II, **13**, 333 (**28**, 105), pl. 88.
— electric. **Brunius.** 5 Ap. 1876. II, **7**, 163 (**17**, 115), pl. 40.
— — **Fania.** 31 Jl. 1877. II, **8**, 452 (**19**, 42), pl. 111.
— — **Hipp.** 30 S. 1863. (**4**, 12)*—Ex. I, **1**, 479 (**5**, 416).
— — **Leblanc et Loiseau.** 31 Mr. 1881. II, **12**, 273 (**25**, 323), pl. 65.
— — **Leblanc et Loiseau.** 20 Ja. 1880. II, **11**, 24 (**23**, 125), pl. 10.
— — **Vincenzi.** 30 S. 1861. (**3**, 110)*—Ex. I, **1**, 247, 484 (**5**, 183, 421).
— — train and station. **de Baillehache.** 11 My. 1878. II, **9**, 280 (**20**, 135), pls. 76, 77.
— pneumatic. **Chambers.** 11 D. 1875. II, **6**, 643 (**16**, 411), pl. 162.
— street. **Tosoni.** 18 Je. 1879. II, **10**, 363 (**22**, 63), pl. 102—Ex. **11**, 219 (**23**, 320).
— train and station. **Dalström.** 24 F. 1880. II, **11**, 93 (**23**, 194), pl. 34.
snow plow. **Decker.** 31 Mr. 1863. (**3**, 431.)*
speed indicator. **Le Boulengé.** 8 Je. 1878. II, **9**, 359 (**20**, 214), pl. 99.
street. **Arenati.** 10 D. 1864. I, **1**, 516 (**5**, 453), pl. 82.
— **Laurenzano.** 31 Ag. 1870. II, **11**, 592 (**24**, 193), pl. 157.
— **Loubat.** 31 Mr. 1856. (**1**, 151.)* (*Sardinia.*)
— **Sharpe.** 30 Je. 1863. (**4**, 38.)*
— **Train.** 30 Je. 1861. (**3**, 27.)*
superstructure. **Desnos-Gardissal.** 21 Je. 1865. I, **2**, 182 (**6**, 166), pl. 53.
— **Reese.** 31 My. 1879. II, **10**, 331 (**22**, 31), pl. 87—Ex. **11**, 757 (**24**, 358).
switch. **Baranowski.** 31 D. 1863. (**4**. 171.)*
— **Blauel.** 19 Je. 1878. II, **9**, 383 (**20**, 238), pl. 108, 109.
— **Bruner.** 21 D. 1881. II, **12**, 1119 (**27**, 169), pl. 310.
— **Curtis.** 4 S. 1874. II, **5**, 432 (**15**, 41), pl. 102.
— **Deletrez.** 21 Ap. 1881. II, **12**, 341 (**25**, 391), pl. 79.
— **Kelly.** 14 Ag. 1876. II, **7**, 404 (**17**, 356), pl. 102.
— **Lanzirotti.** 30 Je. 1862. (**3**, 282.) Ad. (**1**, 140).*
— **Martien.** 30 Je. 1881. II, **12**, 591 (**26**, 141), pl. 147.
— **Olivieri.** 16 N. 1878. II, **9**, 711 (**21**, 66), pl. 216. Ad. **9**, 765 (**21**, 120), pl. 230.
— **Rogé e Baffois.** 12 F. 1873. II, **4**, 64 (**13**, 44), pl. 18.
— **Saxby e Farmer.** 21 D. 1881. II, **12**, 1115 (**27**, 165), pls. 307, 308.
— **Schnabel et Henning.** 7 Je. 1879. II, **10**, 340 (**22**, 40), pl. 95.
— **Tracy.** 9 Ag. 1878. II, **9**, 516 (**20**, 371), pl. 161.
— **Van Ruijven.** 6 Mr. 1879. II, **10**, 110 (**21**, 310), pls. 34–37.
— **Whitehead e Dodd.** 12 O. 1881. II, **12**, 898 (**26**, 448), pl. 237.
— **Williams.** 10 N. 1877. II, **8**, 644 (**19**, 334), pls. 166–168. Ad. **9**, 570 (**20**, 425), pls. 176–179; **9**, 624 (**20**, 479), pls. 196, 197—Ex. **11**, 810 (**24**, 411).
— **Williams.** 29 N. 1879. II, **10**, 800 (**22**, 500), pls. 222–226.
— lever. **Henning.** 28 Mr. 1881. II, **12**, 236 (**25**, 286), pl. 57. Ad. **13**, 23 (**27**, 295), pl. 7.
— operating. **Berthune et Petit.** 31 Mr. 1860. (**2**, 355.)* (*Sardinia.*)
— — **Beynon.** 29 D. 1874. II, **5**, 649 (**15**, 258), pl. 154.
— — **Hahn.** 27 S. 1879. II, **10**, 643 (**22**, 343), pl. 176.

RAILWAY switch—continued.
— signal. **Cattaneo.** 15 Je. 1878. II, **9**, 363 (**20**, 218), pl. 103. Ad. **9**, 531 (**20**, 386), pl. 162.
— — **Henning.** 7 Je. 1879. II, **10**, 339 (**22**, 39), pls. 93, 94—Ex. **11**, 522 (**24**, 123).
— — **Saxby.** 30 S. 1867. I, **4**, 314 (**7**, 454), pls. 108–110.
tie. **Bucknall.** 19 S. 1878. II, **9**, 579 (**20**, 434), pl. 180.
— **Gurret.** 22 F. 1881. II, **12**, 82 (**25**, 132), pl. 21.
— **Levêque.** 3 Mr. 1875. II, **6**, 91 (**15**, 359), pl. 19.
— **Shumway.** 29 Ja. 1877. II, **8**, 36 (**18**, 126), pl. 8.
— iron. **Zorès.** 5 Je. 1864. I, **1**, 327 (**5**, 263), pls. 56–59. Ad. **5**, 139 (**8**, 209), pls. 36–38—Ex. II, **1**, 224 (**10**, 224).
— metallic. **Brunon frères.** 20 F. 1878. II, **9**, 90 (**19**, 445), pl. 24.
— — **Paquet e Guidon.** 31 Ag. 1881. II, **12**, 791 (**26**, 341), pl. 208.
— — **Rigolier.** 30 N. 1874. II, **5**, 583 (**15**, 192), pl. 139.
— — **Rigolier e Vacalut.** 9 N. 1876. II, **7**, 521 (**17**, 474), pl. 131—Ex. **10**, 619 (**22**, 319).
— — **Watson.** 10 N. 1873. II, **4**, 550 (**14**, 30), pl. 151.
track. **Barnes.** 4 Ja. 1869. I, **6**, 4 (**9**, 20), pl. 1.
— **Bazetta.** 13 Ap. 1869. I, **6**, 134 (**9**, 150), pl. 41.
— **Böttcher.** 28 F. 1878. II, **9**, 106 (**19**, 461); pl. 25.
— **Burleigh.** 31 Mr. 1857. (**1**, 376.)* (*Sardinia.*)
— **Cottrau.** 7 Mr. 1882. II, **13**, 165 (**27**, 437), pl. 46.
— **Cucherat.** 27 F. 1877. II, **8**, 79 (**18**, 169), pl. 22.
— **Delfino.** 7 D. 1878. II, **9**, 751 (**21**, 106), pl. 227.
— **Delfino.** 7 D. 1878. II, **9**, 752 (**21**, 107), pl. 227.
— **Del Prate.** 12 Mr. 1872. II, **3**, 88 (**11**, 488), pl. 25.
— **Dering.** 31 Mr. 1860. (**2**, 311.)* (*Sardinia.*)
— **Dering.** 30 S. 1861. (**3**, 98.)* Ad. I, **1**, 547 (**5**, 484).
— **Flachat.** 19 Jl. 1879. II, **10**, 478 (**22**, 178), pl. 131.
— **Gregory.** 16 Je. 1869. I, **6**, 243 (**9**, 259), pl. 78. Ad. **6**, 427 (**9**, 433), pl. 140.
— **Hilf.** 30 D. 1876. II, **7**, 620 (**18**, 73), pl. 158—Ex. **8**, 747 (**19**, 337).
— **Jeary.** 30 S. 1857. (**2**, 17.)* (*Sardinia.*)
— **Kuchen.** 23 My. 1870. II, **1**, 210 (**10**, 210), pl. 48.
— **Lazar.** 4 Mr. 1875. II, **6**, 94 (**15**, 362), pl. 20.
— **Lodigiani.** 24 D. 1874. II, **5**, 617 (**15**, 226)—Ex. **6**, 658 (**16**, 426).
— **Long.** 31 D. 1879. II, **10**, 869 (**23**, 69), pl. 247.
— **Lué.** 18 My. 1876. II, **7**, 248 (**17**, 200), pl. 57.
— **Luzzatto, Köstlin e Battig.** 30 S. 1862. (**3**, 310.)*
— **Muller.** 30 D. 1878. II, **9**, 798 (**21**, 153), pl. 238.
— **Parker.** 27 Ap. 1869. I, **6**, 168 (**9**, 184), pl. 49.
— **Perasso.** 30 D. 1878. II, **9**, 814 (**21**, 169), pl. 244.
— **Rossi.** 20 F. 1878. II, **9**, 83 (**19**, 438), pl. 17—Ex. **10**, 254 (**21**, 454).
— **Sartori.** 31 D. 1877. II, **8**, 760 (**19**, 350), pls. 202, 203. Ad. **10**, 276 (**21**, 476), pl. 78—Ex. **10**, 788 (**22**, 488).
— **Schroeder.** 30 N. 1877. II, **8**, 693 (**19**, 283), pl. 181—Ex. **9**, 823 (**21**, 178).
— **Schwartzkopf.** 12 N. 1879. II, **10**, 736 (**22**, 436), pl. 202.
— **Seaton.** 13 Ag. 1875. II, **6**, 427 (**16**, 195), pl. 97.
— **Seiler e Brown.** 10 Ag. 1877. II, **8**, 463 (**19**, 53), pls. 117, 118.
— **de Simoni.** 30 Je. 1860. (**2**, 413.)* (*Sardinia.*)
— **Società anonima dei tramways Napolitani.** 9 Mr. 1876. II, **7**, 91 (**17**, 43), pl. 23.
— **Società Generale dei Tramways.** 16 Jl. 1875. II, **6**, 377 (**16**, 145), pl. 83.
— **Thomas.** 31 D. 1878. II, **9**, 799 (**21**, 154), pl. 238.
— **Ulens.** 15 My. 1864. I, **1**, 239 (**5**, 175), pl. 23.
— **Vignoles.** 15 My. 1879. II, **10**, 283 (**21**, 483), pl. 78.
— **de Wieczffinski-Serres.** 30 Je. 1879. II, **10**, 425 (**22**, 125), pl. 123. Ad **11**, 22 (**23**, 123), pls. 8–10.
— and wheel. **Breda.** 15 Mr. 1881. II, **12**, 182 (**25**, 232), pl. 44.
— cleaner. **Dodero e figlio e Gorziglia.** 27 D. 1881. II, **12**, 1162 (**27**, 212), pl. 317.
— gage. **Cozza e Corseri.** 29 D. 1873. II, **4**, 618 (**14**, 98), pl. 170.
— — **Kayser.** 28 N. 1873. II, **4**, 562 (**14**, 42), pl. 156.
— heavy grades. **Daigremont.** 7 O. 1865. I, **2**, 269 (**6**, 253), pl. 76.
— laying. **Vitali.** 11 My. 1872. II, **3**, 193 (**12**, 93), pl. 55.
— raiser. **Mencière.** 31 My. 1879. II, **10**, 329 (**22**, 29), pl. 90—Ex. **11**, 497 (**24**, 98); **12**, 610 (**26**, 160).

RAILWAY track—continued.
— signal. **Canossa.** 13 D. 1869. I, **6**, 456 (**9**, 472), pl. 146—Ex. II, **1**, 420 (**10**, 420).
— — **Chambers.** 23 Ja. 1875. II, **6**, 26 (**15**, 294), pl. 7—Ex. **6**, 348 (**16**, 116), pl. 77.
— — **Gordon.** 20 Ja. 1877. II, **8**, 28 (**18**, 118), pl. 6.
— — **Haberstolz.** 30 Ap. 1878. II, **9**, 261 (**20**, 116), pl. 64.
— — **Le Boulenger.** 18 Jl. 1878. II, **9**, 452 (**20**, 307), pl. 133.
— — **Viault e Bernier.** 12 F. 1873. II, **4**, 69 (**13**, 49), pl. 16. Ad. **4**, 228 (**13**, 208), pl. 62—Ex. **5**. 159 (**14**, 268).
— — **Von Trott.** 26 Ag. 1881. II, **12**, 767 (**26**, 317), pl. 200. Ad. **12**, 1107 (**27**, 157), pl. 298.
— street. **Beurle.** 18 Mr. 1872. II, **3**, 93 (**11**, 493), pl. 28.
— — **Billéma.** 13 Ag. 1880. II, **11**, 558 (**24**, 159), pl. 154.
— — **Lynde.** 20 Ag. 1879. II, **10**, 578 (**22**, 278), pl. 159.
— — **Morris.** 24 Ja. 1881. II, **12**, 23 (**25**, 73), pl. 5.
traction. **Boldrini.** 30 S. 1857. (**1**, 466.)* (*Sardinia.*)
— **Maneglia.** 30 Ag. 1854. 102.* (*Sardinia.*)
train. **Arnoux.** 24 Jl. 1853. 32.* (*Sardinia.*)
— **Perratone.** 31 Mr. 1856. (**1**, 186)—Ex. (**1**, 9); (**1**, 18).* (*Sardinia.*)
— **Perratone.** 30 Je. 1859. (**2**, 221.)* (*Sardinia.*)
— **Perratone.** 30 Je. 1861. (**3**, 33.)*
— articulated. **Arnoux.** 30 D. 1860. (**2**, 476.)* (*Sardinia*)—Ex. 1, **1**, 218 (**5**, 154).
— preventing running off track. **Agnese, Odone e Gatti.** 30 Je. 1862. (**3**, 260.)*
— shaking preventing. **Marshal.** 30 S. 1862. (**3**, 354.)*
— signal. **Ferrino.** 9 Mr. 1881. II, **12**, 179 (**25**, 229), pl. 43.
— — **Toepffer e Schaedel.** 18 Je. 1879. II, **10**, 367 (**22**, 67), pl. 104.
— — **Vincenzi.** 3 Jl. 1865. I, **2**, 189 (**6**, 173), pl. 56.
— — **Walcker.** 27 Je. 1870. II, **1**, 269 (**10**, 269), pl. 66.
— — automatic. **Deforesta.** 21 Ap. 1865. I, **2**, 84 (**6**, 68), pl. 20.
tunnel smoke gallery. **Castrogiovanni.** 25 Ja. 1871. II, **2**, 17 (**10**, 439), pl. 3.
turntable. **Martorelli.** 6 Ap. 1878. II, **9**, 197 (**20**, 52), pl. 51.
— **Weickum.** 20 Ag. 1874. II, **5**, 411 (**15**, 20), pl. 96—Ex. **6**, 614 (**16**, 382); **7**, 458 (**17**, 410); **12**, 849 **26**, 399).

RAKE. **Guély et Claudet.** 31 D. 1878. II, **9**, 832 (**21**, 187), pl. 243.

RAM. *See* Hydraulic.

RAMIE brake. **Cardon fils et Comp.** 23 Ja. 1875. II, **6**, 28 (**15**, 296), pl. 6.
decorticating. **Favier.** 30 Jl. 1881. II, **12**, 706 (**26**, 256), pl. 181.
stripper. **Compagnie Industrielle Suisse de la Ramie.** 14 O. 1879. II, **10**, 672 (**22**, 372), pl. 182.

RAMMER. *See* Cement.

RASP cutting machine. **Dobson e Mudge.** 30 Mr. 1878. II, **9**, 168 (**20**, 23), pl. 45—Ex. **12**, 306 (**25**, 350).
renewing. **Clavel.** 5 Jl. 1864. I, **1**, 326 (**5**, 262).

RATCHET. *See also* Clock.
drill. **Vignale e Tesio.** 10 My. 1880. II, **11**, 285 (**23**, 386), pl. 83.

RATTAN working machine. **Monnet.** 30 Je. 1863. (**3**, 501.)*?

RAZOR. **Fontaine.** 3 Mr. 1881. II, **12**, 151 (**25**, 201), pl. 39.
Société Bonnet et Bain. 30 Je. 1880. II, **11**, 449 (**24**. 50), pl. 130.
strap. **Laurent.** 15 My. 1867. I, **4**, 159 (**7**, 299), pl. 45.

REAPING and mowing machine. **Parsons.** 30 Je. 1863. (**4**, 23.)*
— **Wells.** 12 Mr. 1866. I, **3**, 48 (**6**, 374), pl. 13.
machine. **Ambron.** 31 Mr. 1856. (**1**, 142.)* (*Sardinia.*)
— **Aronsohn et Kreyczik.** 19 Jl. 1879. II, **10**, 481 (**22**, 181), pl. 134.
— **Bomfort e King.** 29 S. 1877. II, **8**, 556 (**19**, 146), pl. 139.
— **Krauss.** 25 Mr. 1878. II, **9**, 156 (**20**, 11), pl. 40.
— **Martin du Magny.** 15 N. 1877. II, **8**, 668 (**19**, 258), pl. 175.
— rake. **MacCormick.** 31 Mr. 1862. (**3**, 220)*—Ex. I, **1**, 381 (**5**, 318).

REAPING machine—continued.
— self-binder. **Denizot.** 12 S. 1881. II, **12**, 818 (**26**, 368), pl. 218.

RECEIVER. *See also* Gas.
Guinier. 30 N. 1881. II, **12**, 1066 (**27**, 116), pl. 292.

RECORDER. *See* Music, Surveying instrument.

REEL. *See* Silk, Spinning twisting.

REFLECTOR. **Ballestieri.** 3 F. 1875. II, **6**, 50 (**15**, 318), pl. 11—Ex. **7**, 175 (**17**, 127).
Franzini. 5 My. 1879. II, **10**, 262 (**21**, 462), pl. 74.
Haddan. 28 O. 1881. II, **12**, 944 (**26**, 494), pl. 251.
Lafarge. 30 Je. 1859. (**2**, 227.)* (*Sardinia.*)
Mandò. 31 Mr. 1881. II, **12**, 280 (**25**, 330), pl. 65.
Marshall. 23 Ja. 1867. I, **4**, 43 (**7**, 182).

REFRIGERATING GOBLET. **Bonnard.** 27 O. 1865. I, **2**, 291 (**6**, 275), pl. 79.

REFRIGERATOR. **Bertone.** 31 D. 1858. (**2**, 186.)* (*Sardinia.*)
Birdsall (?). 27 Ap. 1878. II, **9**, 253 (**20**, 108), pl. 64.
Cook. 9 Ag. 1878. II, **9**, 512 (**20**, 367), pl. 160.
Dallemagne. 19 Je. 1865. I, **2**, 179 (**6**, 163), pl. 48.
Gorrieri. 27 Mr. 1882. II, **13**, 239 (**28**, 11), pl. 57.
Giffard. 18 Ap. 1879. II, **10**, 229 (**21**, 429), pl. 66.
Jaeckel-Handwerk. 25 Ja. 1881. II, **12**, 1 (**25**, 51), pl. 1.
Mussi fratelli. 28 Ap. 1880. II, **11**, 260 (**23**, 361), pl. 75.
Rabò. 16 Ag. 1871. II, **2**, 263 (**11**, 185), pl. 58.
Ricci. 8 Je. 1877. II, **8**, 327 (**18**, 417), pl. 89.
Schultze. 21 S. 1872. II, **3**, 429 (**12**, 329), pl. 99.
Tessié du Motay e Rossi. 30 Ap. 1880. II, **11**, 272 (**23**, 373).
Vinot. 20 Mr. 1869. I, **6**, 108 (**9**, 124), pl. 26.
portable. **Lamberti.** 2 S. 1872. II, **3**, 393 (**12**, 293), pl. 101.
steamship **Jagn.** 27 S. 1879. II, **10**, 627 (**22**, 327), pl. 174.

REGENERATOR FURNACE. **Siemens** 10 O. 1867. I, **4**, 339 (**7**, 480), pls. 105–107—Ex. II, **4**, 513 (**13**, 493).

REGISTER. *See* Carriage, Cock, Counting, Distilling, Electric railway train, Grain, Match manufacture, Passenger, Speed, Spinning, Stamp, Steam boiler, Steam engine, Telephone, Thrashing machine, Ticket.

REGULATOR. *See* Burner, Canal water level, Car axle pressure, Clock, Cock pressure, Electric accumulator, Electric light, Electric, Fluid pressure, Gas pressure, Liquid distributing, Loom, Machinery, Piano keyboard, Pressure, Sewing machine, Steam boiler feed, Steam engine steam feed, Steam pressure, Telegraph, Watch, Water level, Water-wheel feed, Water wheel.

REHEATING FURNACE. **Howatson.** 11 Ap. 1874. II, **5**, 151 (**14**, 260), pl. 33.

REIN, safety. **Bottari.** 21 F. 1878. II, **9**, 716 (**21**, 71), pl. 217. Ad. **10**, 34 (**21**, 234), pl. 8.

RESIN extracting from pine. **Pastorelly.** 21 Mr. 1865. I, **2**, 75 (**6**, 59), pl. 12—Ex. **3**, 93 (**6**, 419).
extracting from pinus marittima. **Westerman.** 30 Je. 1863. (**4**, 44.)*
oil manufacture. **Campari.** 12 D. 1881. II, **12**, 1087 (**27**, 137).
purifying. **Ferrero.** 31 D. 1858. (**2**, 160.)* (*Sardinia.*)
treating. **Hunt et Pochin.** 31 Mr. 1860. (**2**, 347.)* (*Sardinia.*)

RESINOUS liquids extracting for lighting. **Nérot et Charbonneaux.** 31 Mr. 1880. II, **11**, 184 (**23**, 289), pl. 58.

RESPIRATOR. **Pollarini.** 17 Jl. 1868. I, **5**, 225 (**8**, 295)—Ex. **6**, 304 (**9**, 320).

RETORT. *See also* Gas.
Wotherspoon e Foulis. 25 S. 1873. II, **4**, 463 (**13**, 443), pl. 132—Ex. **5**, 627 (**15**, 236).
graphite. **Peto.** 12 D. 1878. II, **9**, 757 (**21**, 112).
manœuvering machinery. **Foulis.** 8 Je. 1875. II, **6**, 293 (**16**, 61), pl. 65.

REVERBERATORY FURNACE. **Fenwick e Cochrane.** 18 Ja. 1882. II, **13**, 34 (**27**, 306), pl. 9.
Gadsden. 25 Mr. 1878. II, **9**, 161 (**20**, 16), pl. 42—Ex. **10**, 71 (**21**, 271); **11**, 123 (**23**, 224).
Ponsard. 17 Je. 1870. II, **1**, 248 (**10**, 248), pl. 63—Ex. **7**, 305 (**17**, 257).
Ponsard. 12 Mr. 1872. II, **3**, 81 (**11**, 481), pls. 23, 24.

REVERBERATORY FURNACE—continued.
Siemens. 10 O. 1867. I, **4**, 339 (**7**, 480), pls. 105–107—Ex. II, **4**, 513 (**13**, 495).
hydrogen. **Chiadò.** 23 N. 1864. I, **1**, 497 (**5**, 434), pl. 80.
RICE bleacher and pulverizer. **Venturi.** 10 Je. 1869. I, **6**, 235 (**9**, 251), pl. 76.
huller. **Bardini.** 24 S. 1872. II, **3**, 437 (**12**, 337), pl. 105.
— **Cirla.** 21 Mr. 1870. II, **1**, 100 (**10**, 100), pl. 19.
— **Dossi ed al.** 2 Je. 1868. I, **5**, 190 (**8**, 260).
— **de Fazzi.** 30 Je. 1861. (**3**, 65.)*
— **Ganneron.** 22 My. 1866. I, **3**, 130 (**6**, 456), pl. 42.
— **Guioni.** 30 D. 1860. (**2**, 467.)* (*Sardinia*)—Ex. I, **1**, 141 (**5**, 77); **1**, 511 (**5**, 448); **4**, 158 (**7**, 298).
— **Locarni.** 31 Mr. 1881. II, **12**, 260 (**25**, 310), pl. 61.
— **Mutti.** 1 Je. 1868. I, **5**, 175 (**8**, 245), pl. 49.
Nasoni e fratelli. 31 Mr. 1862. (**3**, 221.)*
— **Pistre.** 11 F. 1852. 24.* (*Sardinia.*)
— **Poggioli.** 30 Je. 1880. II, **11**, 451 (**24**, 52), pl. 130.
— **Pozzi.** 23 Je. 1874. II, **5**, 297 (**14**, 406), pl. 72.
— **Roulet.** 22 F. 1850. 5.* (*Sardinia.*)
— **Siliotti.** 24 S. 1875. II, **6**, 502 (**16**, 270), pl. 122.
— **Sozzani.** 30 S. 1870. II, **1**, 331 (**10**, 331), pl. 85.
— **Viglino.** 26 Ap. 1871. II, **2**, 104 (**11**, 26), pl. 19.
— and polisher. **Bonarda e Gario.** 27 My. 1879. II, **10**, 312 (**22**, 12).
— — **Cloet.** 25 Ja. 1869. I, **6**, 24 (**9**, 40), pl. 6—Ex. II, **1**, 143 (**10**, 143).
— — **Fraschini.** 9 N. 1876. II, **7**, 530 (**17**, 483), pl. 133.
— — **Garrone.** 28 Mr. 1875. II, **6**, 131 (**15**, 399), pl. 26.
— — **Higginbottom et Hutchinson.** 24 S. 1875. II, **6**, 514 (**16**, 282), pl. 125—Ex. **6**, 576 (**16**, 344).
— — **Locarni.** 10 Jl. 1873. II, **4**, 337 (**13**, 317), pl. 90.
— — **Martin.** 8 F. 1878. II, **9**, 64 (**19**, 419), pl. 15.
— — **Nasoni fratelli.** 17 My. 1875. II, **6**, 256 (**16**, 24), pl. 55. Ad. **7**, 109 (**17**, 61).
— — **Omboni.** 18 Je. 1875. II, **6**, 306 (**16**, 74), pl. 68.
hulling, bleaching, and polishing. 13 Mr. 1868. I, **5**, 18 (**8**, 88).
mill. **Cirla.** 21 Mr. 1870. II, **1**, 99 (**10**, 99), pl. 18.
— **Uglietti.** 14 Ag. 1876. II, **7**, 407 (**17**, 359), pl. 102.
polisher. **Bardini.** 24 Jl. 1872. II, **3**, 329 (**12**, 229), pl. 84.
— **Berutti.** 11 Mr. 1882. II, **13**, 181 (**27**, 453), pl. 50.
— **Brocero.** 31 D. 1858. (**2**, 188.)* (*Sardinia.*)
— **Catalani.** 24 N. 1874. II, **5**, 576 (**15**, 185), pl. 137.
— **Catalani.** 20 D. 1879. II, **10**, 841 (**23**, 41), pl. 235.
— **Costa e Filipponi.** 7 Mr. 1882. II, **13**, 158 (**27**, 430), pl. 44.
— **Fisher.** 7 Je. 1880. II, **11**, 358 (**23**, 459), pl. 101—Ex. **12**, 619 (**26**, 169).
— **Guioni.** 30 Je. 1855. (**1**, 37.)* (*Sardinia.*)
— **Guioni.** 31 Mr. 1860. (**2**, 357)*—Ex. I, **1**, 142 (**5**, 78); **1**, 510 (**5**, 447); **4**, 157 (**7**, 297). (*Sardinia.*)
— **Locarni.** 6 Mr. 1874. II, **5**, 89 (**14**, 198), pl. 19.
— **Locarni.** 26 Ap. 1877. II, **8**, 222 (**18**, 312), pl. 63.
— **Lozzani.** 30 S. 1870. II, **1**, 331 (**10**, 331), pl. 85.
— **Magri.** 30 Je. 1856. (**1**, 176.)* (*Sardinia.*)
— **Magri.** 30 Je. 1856. (**1**, 213.)* (*Sardinia.*)
— **Nasoni.** 10 D. 1864. I, **1**, 513 (**5**, 450), pl. 84.
— **Nasoni fratelli.** 17 My. 1875. II, **6**, 255 (**16**, 23), pl. 55. Ad. **7**, 110 (**17**, 62), pl. 25.
— **Piletta.** 31 D. 1857. (**1**, 319.)* (*Sardinia.*)
— **Preve.** 15 S. 1876. II, **7**, 440 (**17**, 392), pl. 110—Ex. **8**, 603 (**19**, 193).
— **Preve.** 15 S. 1876. II, **7**, 453 (**17**, 405), pl. 111—Ex. **8**, 616 (**19**, 206).
— **Rogger.** 31 My. 1879. II, **10**, 318 (**22**, 18), pl. 83.
— **Siliotti.** 31 Mr. 1879. II, **10**, 194 (**21**, 394), pl. 58.
— **Siliotti.** 23 F. 1881. II, **12**, 93 (**25**, 143), pl. 24.
— **Semino.** 5 My. 1874. II, **5**, 204 (**14**, 313), pl. 44.
— **Semino.** 5 Ap. 1876. II, **7**, 173 (**17**, 125) pl. 40.
— **Semino e Telesio.** 5 Ag. 1870. II, **1**, 321 (**10**, 321), pl. 83—Ex. **2**, 253 (**11**, 175).
— **Telesio.** 30 Mr. 1874. II, **5**, 127 (**14**, 236), pl. 27—Ex. **6**, 236 (**16**, 4).
— **Telesio.** 13 My. 1875. II, **6**, 239 (**16**, 7), pl. 48.
— **Telesio, Costa e Filipponi.** 7 D. 1880. II, **11**, 858 (**24**, 459), pl. 150.
— **Uglietti.** 30 S. 1856. (**1**, 218.)* (*Sardinia.*)
— **Viglino.** 26 Ap. 1871. II, **2**, 104 (**11**, 26), pl. 19.
polishing. **Ardoino.** 19 O. 1870. II, **1**, 376 (**10**, 376).
— **Barrabé e Hignette.** 22 Je. 1870. II, **1**, 259 (**10**, 259), pl. 67.

RICE polishing—continued.
— **Bellegrandi.** 30 My. 1871. II, **2**, 151 (**11**, 73). Ad. **3**, 256 (**12**, 156), pl. 72.
— **Henrion.** 13 Ap. 1869. I, **6**, 126 (**9**, 142), pl. 41.
— **Semino.** 21 Ap. 1875. II, **6**, 184 (**15**, 452).
— powder. **Semino.** 9 F. 1867. I, **4**, 50 (**7**, 189).
pounding machine. **Valetti.** 10 Je. 1869. I, **6**, 232 (**9**, 248), pl. 66.
RING. *See* Key, Sail.
RIVER-BANK protecting. **Caretta.** 11 Jl. 1867. I, **4**, 224 (**7**, 364), pl. 71.
— **Massazza.** 7 F. 1873. II, **4**, 52 (**13**, 32), pl. 15.
— **Murnigotti.** 15 Jl. 1881. II, **12**, 597 (**26**, 147), pl. 148.
— **Nicoli.** 9 O. 1865. I, **2**, 275 (**6**, 259).
RIVET-MACHINE. **Gauthier.** 17 O. 1863. (**4**, 70)*—Ex. I, **1**, 281 (**5**, 217).
Henrion. 22 F. 1876. II, **7**, 72 (**17**, 24), pl. 18.
Le Blanc et Vincent. 15 N. 1877. II, **8**, 653 (**19**, 243), pl. 171.
ROAD planer. **Weber.** 11 Je. 1879. II, **10**, 350 (**22**, 50), pl. 93—Ex. **11**, 357 (**23**, 458); **12**, 580 (**26**, 130).
rammer, steam. **Nicholls.** 25 My. 1880. II, **11**, 333 (**23**, 434), pl. 94.
roller. **Penati.** 20 Ap. 1877. II, **8**, 214 (**18**, 304), pl. 61. Ad. **9**, 301 (**20**, 156), pl. 82.
way. **Perasso.** 30 D. 1878. II, **9**, 814 (**21**, 169), pl. 244.
ROASTING apparatus. **Buckwell.** 5 Ag. 1870. II, **1**, 325 (**10**, 325), pl. 82—Ex. **3**, 133 (**12**, 33).
ROCK drill. **Bartlett.** 30 Je. 1855. (**1**, 20.)* (*Sardinia.*)
— **Berens.** 8 Jl. 1867. I, **4**, 176 (**7**, 316), pl. 52. Ad. **4**, 257 (**7**, 397), pl. 80.
— **Berthier.** 3 D. 1864. I, **1**, 505 (**5**, 442), pl. 84.
— **Blacket e Appleby.** 10 F. 1872. II, **3**, 41 (**11**, 441), pls. 11, 12.
— **Brunton.** 12 F. 1867. I, **4**, 56 (**7**, 195), pl. 21—Ex. **6**, 56 (**9**, 73); II, **4**, 58 (**13**, 38); **6**, 41 (**16**, 493).
— **Carr e Urwin.** 30 My. 1874. II, **5**, 260 (**14**, 369), pl. 55.
— **Dearing.** 28 My. 1868. I, **5**, 157 (**8**, 227), pls. 44, 45.
— **Faber.** 26 F. 1879. II, **10**, 91 (**21**, 291), pl. 26.
— **Gay.** 12 Ap. 1864. I, **1**, 99 (**5**, 35), pl. 7.
— **Gay.** 7 F. 1873. II, **4**, 55 (**13**, 35), pl. 14.
— **Girard.** 30 S. 1863. (**4**, 74)*—Ex. I, **2**, 255 (**6**, 239).
— **Gottheil.** 15 S. 1873. II, **4**, 453 (**13**, 433), pl. 130.
— **Gronert.** 16 D. 1878. II, **9**, 771 (**21**, 126), pl. 232.
— **Hanarte.** 12 O. 1881. II, **12**, 915 (**26**, 465), pl. 244.
— **Lescot.** 30 S. 1862. (**3**, 333.)* I, **1**, 255 (**5**, 191).
— **de Mongolfier.** 31 Mr. 1864. (**4**, 192.)*
— **Penrice.** 13 Ap. 1864. I, **1**, 104 (**5**, 40), pl. 12.
— **Penrice.** 7 Jl. 1866. I, **3**, 161 (**6**, 487), pl. 51.
— **Schrader e Fritz.** 16 O. 1878. II, **9**, 606 (**20**, 461), pl. 192.
— **Sommeiller.** 30 Je. 1857. (**1**, 463.)* (*Sardinia.*)
— **Stamm.** 20 Ap. 1872. II, **3**, 164 (**12**, 64), pl. 47.
— **Sutherland.** 14 My. 1864. I, **1**, 232 (**5**, 168), pl. 21.
— **Sutherland.** 11 Je. 1864. I, **1**, 303 (**5**, 239), pl. 31.
drilling machine. **Faustini.** 28 S. 1881. II, **12**, 866 (**26**, 416), pl. 231.
— **Gay.** 30 D. 1864. I, **1**, 534 (**5**, 471), pls. 88, 89.
— **Gay.** 16 F. 1875. II, **6**, 69 (**15**, 337), pl. 15.
— **Girard.** 22 My. 1871. II, **2**, 142 (**11**, 64), pls. 32, 33.
— **Neuerburg.** 6 Ag. 1872. II, **3**, 347 (**12**, 347), pl. 90.
— **Penrice.** 17 Jl. 1868. I, **5**, 228 (**8**, 298), pl. 69.
— frame. **Conci.** 18 Je. 1868. I, **5**, 215 (**8**, 285), pls. 61, 62.
— submarine. **Nepveu.** 12 S. 1865. I, **2**, 238 (**6**, 222), pl. 67.
tunneling. **Buguet et Vallauri.** 30 S. 1860. (**2**, 432.)* (*Sardinia.*)
— **Colladon.** 30 Je. 1855. (**1**, 7.)* (*Sardinia.*)
— **Colladon.** 30 Je. 1857. (**1**, 416.)* Ad. (**1**, 24). (*Sardinia.*)
— **Fontenay.** 31 D. 1862. (**3**, 390.) Ad. (**1**, 434)*—Ex. I, **1**, 549 (**5**, 486); **3**, 15 (**6**, 34).
— machine. **Penrice.** 31 D. 1861. (**3**, 140.)*
undercutter. **Chaillon.** 31 D. 1863. (**4**, 174.)* I, **1**, 559 (**5**, 496).
ROD. *See* Balance, Curtain, Divining.
ROLLER. *See* Brick, Paving, Printing, Road.
ROLLING mill. **Garnier e Hesseland.** 19 Je. 1872. II, **3**, 264 (**12**, 164), pl. 67.

ROLLING mill—continued.
— **Scarron.** 14 O. 1873. II, **4**, 491 (**13**, 471), pl 137.
— adjustment. **Mechwart.** 25 Mr. 1879. II, **10**, 153 (**21**, 353), pl. 51. Ad. **10**, 463 (**22**, 163), pl. 129.
ROOF. **Roster.** 8 Je. 1875. II, **6**, 298 (**16**, 66), pl. 64.
truss. **Schmidt.** 8 My. 1877. II, **8**, 262 (**18**, 352), pl. 74.
ROOFING. **Cestelli.** 5 Ag. 1871. II, **2**, 246 (**11**, 168), pl. 55.
Giorcelli. 25 My. 1880. II, **11**, 337 (**23**, 438). Ad. **12**, 54 (**25**, 104); **12**, 709 (**26**, 259); **13**, 33 (**27**, 305).
Hilgers. 15 Mr. 1878. II, **9**, 118 (**19**, 473), pl. 32—Ex. **10**, 258 (**21**, 458); **13**, 264 (**28**, 36).
Mathieu. 29 My. 1875. II, **6**, 271 (**16**, 39), pl. 60. Ad. **6**, 638 (**16**, 406), pl. 161—Ex. **9**, 430 (**20**, 430).
cement. **Schieder e Polzer.** 23 Je. 1881. II, **12**, 564 (**26**, 114), pl. 141.
cork. **Marinoni.** 11 My. 1881. II, **12**, 396 (**25**, 446).
galvanized sheet iron. **de La Martellière.** 28 Mr. 1870. II, **1**, 130 (**10**, 130), pl. 32; **2**, 5 (**10**, 430). Ad. **2**, 393 (**11**, 315), pl. 84.
iron. **Buckwel.** 22 Ja. 1867. I, **4**, 34 (**7**, 173).
metallic tile. **Klehe.** 21 Ap. 1881. II, **12**, 349 (**25**, 399), pl. 81.
tarred paper. **Manuelli.** 31 D. 1861. (**3**, 155.)*
tile. **Percivale.** 14 N. 1874. II, **5**, 549 (**15**, 158), pl. 130—Ex. **8**, 3 (**18**, 93).
ROPE coiling machine. **Taylor.** 23 Jl. 1881. II, **12**, 660 (**26**, 210), pls. 169, 170.
manufacture. **Daillon.** 31 Mr. 1863. (**3**, 496.)*
— **Payne.** 31 D. 1862. (**3**, 420.)*
— **Ratignez.** 31 D. 1861. (**3**, 153.)*
— from agave. **Galleano.** 31 D. 1856. (**1**, 422.)* (*Sardinia.*)
— machine. **Ouarnier.** 16 Je. 1868. I, **5**, 209 (**8**, 279), pls. 59, 60.
untwisting machine. **Girard.** 11 Je. 1879. II, **10**, 358 (**22**, 58), pl. 95.
ROTARY engine. **Bellini.** 31 D. 1877. II, **8**, 753 (**19**, 343), pl. 201.
— **Adams.** 27 Je. 1872. II, **3**, 280 (**12**, 180), pl. 75.
— **Bobrownicki.** 7 O. 1865. I, **2**, 274 (**6**, 258), pl. 78.
— **Bompard.** 22 F. 1867. I, **4**, 73 (**7**, 212), pl. 25.
— **Brossard.** 31 Mr. 1882. II, **13**, 282 (**28**, 54), pls. 74, 75.
— **Carobbi e Reynolds.** 28 Mr. 1875. II, **6**, 130 (**15**, 398), pl. 26.
— **Ciana.** 31 D. 1875. II, **6**, 675 (**16**, 443), pl. 171.
— **Conti.** 25 My. 1877. II, **8**, 295 (**18**, 385), pl. 81.
— **Croce.** 11 Ap. 1874. II, **5**, 154 (**14**, 263), pl. 34.
— **Dall'Orto.** 30 N. 1881. II, **12**, 1063 (**27**, 113), pls. 291, 292.
— **Fontana.** 27 F. 1875. II, **6**, 85 (**15**, 353), pl. 18.
— **Grattini.** 11 D. 1875. II, **6**, 652 (**16**, 420), pl. 164.
— **Martin.** 29 Ja. 1877. II, **8**, 39 (**18**, 129), pl. 9.
— **Molard.** 29 D. 1864. I, **1**, 528 (**5**, 465), pl. 84.
— **Morin.** 13 Jl. 1880. II, **11**, 490 (**24**, 91), pl. 139.
— **Pelluchi.** 23 My. 1865. I, **2**, 138 (**6**, 122), pl. 33.
— **Ravel.** 27 N. 1877. II, **8**, 673 (**19**, 263), pl. 179. Ad. **9**, 100 (**19**, 455), pl. 28.
— **Ruchet.** 31 Mr. 1860. (**2**, 324.)* (*Sardinia.*)
— **Simmons e Whitley.** 25 Ja. 1878. II, **9**, 24 (**19**, 379), pl. 70.
— **Venzano.** 30 D. 1864. I, **1**, 538 (**5**, 475), pl. 89.
— **Viglino.** 1 Je. 1868. I, **5**, 173 (**8**, 243), pl. 48.
— steam or gas. **Perrigault.** 23 My. 1865. I, **2**, 148 (**6**, 132), pl. 36. Ad. **3**, 150 (**6**, 470), pl. 47.
— steam or hydraulic. **Tassara.** 30 Je. 1861. (**3**, 37.)*
RUDDER. **Commerell.** 21 Mr. 1877. II, **8**, 131 (**18**, 221), pl. 37.
Figge, Kottgen e Wedekind. 10 Ag. 1881. II, **12**, 734 (**26**, 284), pl. 190.
Ghersi. 30 Je. 1855. (**1**, 23.) Ad. (**1**, 28.)* (*Sardinia.*)
Hirsch. 13 Jl. 1880. II, **11**, 489 (**24**, 90).
indicator. **Nickoll.** 26 Ag. 1875. II, **6**, 440 (**16**, 208), pl. 102.
signal. **Caminada.** 15 My. 1879. II, **10**, 286 (**21**, 486), pl. 79.
temporary. **de Guénédal.** 25 Ap. 1878. II, **9**, 228 (**20**, 83), pl. 57.
RULER for calculating interest. **Baratta.** 28 Je. 1867. I, **4**, 210 (**7**, 350), pl. 64.
RULING machine. **Tamagnini.** 8 Ag. 1876. II, **7**, 381 (**17**, 333), pl. 96.
— **Vincenzi.** 11 Ag. 1857. 20.* (*Sardinia.*)
RUSH cording. **Grass.** 23 My. 1881. II, **12**, 433 (**25**, 483).
SABER. *See* Bayonet.
SACCHARATE. *See* Calcium, Strontium.
SADDLE. **Farlatti.** 22 My. 1871. II, **2**, 146 (**11**, 68), pl. 29.
Ruttici. 17 Ja. 1874. II, **5**, 14 (**14**, 123), pl. 2.
Stwrtnik. 22 Mr. 1871. II, **2**, 77 (**10**, 499), pl. 15.
and harness cushion. **Angelini.** 16 Je. 1865. I, **2**, 170 (**6**, 154). Ad. **3**, 32 (**6**, 154), pl. 8.
girth. **Steinbach e Zwanziger.** 27 F. 1875. II, **6**, 78 (**15**, 316), pl. 17—Ex. **7**, 66 (**17**, 18). Ad. **7**, 298 (**17**, 250), pl. 70—Ex. **8**, 62 (**18**, 152).
SAFFRON, artificial. **Corberon.** 12 Ap. 1864. I, **1**, 93 (**5**, 29).
SAIL cloth manufacture. **Maresca.** 14 Jl. 1864. I, **1**, 333 (**5**, 270), pl. 68—Ex. **1**, 334 (**5**, 271); **1**, 352 (**5**, 289).
ring. **Bertrem.** 29 My. 1877. II, **8**, 303 (**18**, 393), pl. 84.
SALT crystal manufacture. **Cazalis.** 31 My. 1864. I, **1**, 273 (**5**, 209).
extracting from seawater. **Hildesheim.** 16 O. 1871. II, **2**, 347 (**11**, 269).
manufacture. **Merle.** 14 Jl. 1864. I, **1**, 348 (**5**, 285).
— **Pergeline.** 20 F. 1878. II, **9**, 93 (**19**, 448).
recovering from freezing mixtures. **Russo.** II, **3**, 353 (**12**, 203)—Ex. **4**, 480 (**13**, 460).
water evaporating. **Caire.** 31 Mr. 1857. (**1**, 367.)* (*Sardinia.*)
water treating. **Renouard.** 31 Mr. 1863. (**3**, 498)*—Ex. I, **1**, 220 (**5**, 156).
SAMPLE. *See* Grain.
SAND cloth. **Ferrino.** 22 Mr. 1876. II, **7**, 125 (**17**, 77).
paper. **Vellano e Vittone.** 31 D. 1856. (**1**, 298.)* (*Sardinia.*)
SAPONIFIER extracting from Chili bark. **de Werchin.** 12 Jl. 1864. I, **1**, 308 (**5**, 244).
SAPPER's tool. **Carboni.** 29 N. 1881. II, **12**, 1047 (**27**, 97), pl. 287.
SARCOPHAGUS. **Beschomer.** 6 Ap. 1875. II, **6**, 156 (**15**, 424), pl. 33.
SASH bolt. **Lecloux.** 13 S. 1871. II, **2**, 305 (**11**, 227), pl. 68.
fastening. **Camion.** 30 Je. 1881. II, **12**, 590 (**26**, 140), pl. 146.
iron. **Birlé.** 29 Mr. 1867. I, **4**, 104 (**7**, 244), pl. 34—Ex. **5**, 77 (**8**, 147); II, **1**, 155 (**10**, 155).
SAUCEPAN. **Krumholtz e von Westen.** 30 O. 1874. II, **5**, 520 (**15**, 129), pl. 123.
SAUSAGE. **Bonati fratelli.** 28 Jl. 1881. II, **12**, 677 (**26**, 227).
grading machine. **Tesini, Biolchi e Comp.** 8 Ap. 1872. II, **3**, 128 (**12**, 28), pl. 39.
machine. **Berardo.** 6 Ag. 1878. II, **9**, 509 (**20**, 364), pl. 159.
— **Canavesio.** 18 Je. 1875. II, **6**, 3 0 (**16**, 88), pl. 70.
— **Girardi.** 27 Ag. 1870. II, **1**, 332 (**10**, 332), pl. 83.
— **Girardi.** 10 Jl. 1873. II, **4**, 331 (**13**, 311), pl. 85.
— **Girardi.** 15 S. 1874. II, **5**, 452 (**15**, 61), pl. 106.
— **Lancia e fratello.** 30 Je. 1858. (**2**, 89.)* (*Sardinia.*)
— **Valazza.** 7 O. 1865. I. **2**, 267 (**6**, 251), pl. 75.
SAW. **Farant.** 30 S. 1858. (**2**, 154.)* (*Sardinia.*)
band. **Schadlbauer.** 19 Je. 1872. II, **3**, 261 (**12**, 161), pl. 71.
circular. **Capurro.** 25 Ag. 1869. I, **6**, 330 (**9**, 346), pl. 112.
— **Pirandello.** 4 Ag. 1874. II, **5**, 364 (**14**, 473), pl. 83.
cylindrical marble. **Guerra.** 30 Je. 1862. (**3**, 376.)*
guide. **Rigaud.** 27 Ja. 1882. II, **13**, 59 (**27**, 331), pl. 14.
hand. **Noot.** 5 D. 1871. II, **2**, 435 (**11**, 357), pl. 92—Ex. **5**, 5 (**14**, 114).
resinous wood. **Alers.** 26 Je. 1868. I, **5**, 221 (**8**, 291), pl. 57.
steam. **Niccolini e Drevet.** 11 Jl. 1853. 51.* (*Sardinia.*)
stone. **Kehr et Millet.** 30 Je. 1860. (**2**, 380.)* (*Sardinia.*)
— **Vayriot.** 20 O. 1879. II, **10**, 688 (**22**, 388), pl. 185.
teeth fastening. **Miller.** 25 F. 1867. I, **4**, 77 (**7**, 216), pl. 24.
SAWING irregular shapes. **Kinder.** 31 Mr. 1858. (**2**, 50.)* (*Sardinia.*)
machine. **Levera fratelli.** 30 D. 1859. (**2**, 300.)* (*Sardinia.*)

SAWING machine—continued.
— **Miragoli e Riccaboni.** 31 Ag. 1881. II, **12**, 805 (**26**, 355), pl. 214.
— **Mollard et Cie.** 30 S. 1856. (**1**, 235.)* (*Sardinia.*)
— tree. **Ransome.** 25 Mr. 1878. II, **9**, 157 (**20**, 12), pl. 41.
— wood. **Bontempi.** 16 Je. 1869. I, **6**, 241 (**9**, 257), pl. 77.
SCABBARD manufacture. **Deny.** 31 Mr. 1868. I, **5**, 61 (**8**, 131), pl. 15.
SCAFFOLD. **Bozzalla.** 2 F. 1865. I, **2**, 37 (**6**, 21), pl. 10.
Conci. 10 Mr. 1869. I, **6**, 87 (**9**, 103), pls. 28, 29.
Conci. 24 Ap. 1870. II, **1**, 168 (**10**, 168), pls. 40–42.
Mazzari. 15 F. 1879. II, **10**, 76 (**21**, 276), pl. 22.
portable. **Mariani e Comp.** 28 F. 1879. II, **10**, 88 (**21**, 288), pl. 26.
— **Marzari.** 18 Je. 1879. II, **10**, 381 (**22**, 81), pl. 108.
— **Moretta.** 28 F. 1879. II, **10**, 104 (**21**, 304), pls. 31, 32.
— **Somajni.** 11 My. 1881. II, **12**, 405 (**25**, 455), pl. 100.
safety hook. **Harff.** 20 O. 1881. II, **12**, 922 (**26**, 472), pl. 242.
SCALES. *See* Grain, Weighing.
SCALLOPING machine. **Betirac.** 21 Ja. 1867. I, **4**, 10 (**7**, 149), pl. 7.
SCREEN. *See also* Advertising, Ore.
Davids et Comp. 29 N. 1879. II, **10**, 784 (**22**, 484), pl. 213.
SCREW and lever press. **Boomer.** 22 S. 1873. II, **4**, 457 (**13**, 437), pl. 131.
bolt and nut substitute. **Thompson.** 6 N. 1880. II, **11**, 786 (**24**, 387), pl. 225.
clamp. **Papin.** 19 Je. 1880. II, **11**, 413 (**24**, 14), pl. 116.
cutting machine. **Baville e Greenwood.** 9 Ap. 1877. II, **8**, 177 (**18**, 267), pl. 50—Ex. **9**, 290 (**20**, 145).
fastening. **Gérard.** 22 Ap. 1882. II, **13**, 348 (**28**, 120), pl. 92.
machine. **Parker.** 27 Ag. 1879. II, **10**, 569 (**22**, 269), pls. 160, 161.
— **Postlethwaite.** 11 Ag. 1869. I, **6**, 317 (**9**, 332), pls. 106, 107.
mold for plastics. **Roberts.** 9 D. 1874. II, **5**, 590 (**15**, 199), pl. 143.
press. **de Luca.** 31 Ja. 1879. II, **10**, 38 (**21**, 238), pl. 10.
— **Stasi.** 16 My. 1870. II, **1**, 204 (**10**, 204), pl. 53.
wood. manufacture. **Hoffmann.** 11 Je. 1874. I, **5**, 265 (**14**, 374), pls. 61, 62.
wrench. **Baecker.** 29 S. 1877. II, **8**, 571 (**19**, 161), pl. 142.
— **Schwartzkopff.** 22 My. 1866. I, **3**, 134 (**6**, 460), pl. 44.
SCULPTOR'S modeling material. **Giudice.** 19 Je. 1872. II, **3**, 266 (**12**, 166).
SCULPTURING machine. **Guattari.** 31 D. 1880. II, **11**, 923 (**25**, 24), pl. 260.
— **Salvatico** 18 Mr. 1879 II, **10**, 112 (**21**, 312), pl. 34.
— **Viard.** 17 N. 1869. I, **6**, 417 (**9**, 433), pl. 136.
SCYTHE beating machine. **Jacquot e Thirion.** 31 My. 1881. II, **12**, 488 (**26**, 38), pl. 122.
SEA sickness, apparatus to prevent. **Hodge.** 22 Ja. 1867. I, **4**, 31 (**7**, 170), pl. 8.
wall. **Colacicchi.** 11 D. 1876. II, **2**, 447 (**11**, 369), pl. 94—Ex. **4**, 22 (**13**, 2).
— **Lake e Taylor.** 20 N. 1879. II, **10**, 781 (**22**, 481), pl. 215.
water evaporating. **Gervais.** 30 Je. 1861. (**3**, 69.)*
SEAL. **Boari.** 25 Je. 1875. II, **6**, 336 (**16**, 104), pl. 72—Ex. **7**, 394 (**17**, 346); **8**, 436 (**19**, 26); **9**, 466 (**20**, 321); **10**, 446 (**22**, 146); **12**, 625 (**26**, 175).
de Colmont. 13 Jl. 1880. II, **11**, 467 (**24**, 68), pl. 134.
Corradi. 9 Mr. 1882. II, **13**, 173 (**27**, 445), pl. 48.
Egidi e Nusiner. 31 My. 1879. II, **10**, 327 (**22**, 27), pl. 90—Ex. **11**, 313 (**23**, 414).
Fortuna e Egidi. 16 N. 1878. II, **9**, 696 (**21**, 51), pl. 210.
Lossa. 30 Jl. 1881. II, **12**, 695 (**26**, 245), pl. 177.
Mantant. 31 D. 1855. (**1**, 123.)* (*Sardinia.*)
lead. **Piana.** 31 Mr. 1862. (**3**, 215.)*
— **Rimoldi.** 16 Ag. 1877. II, **8**, 482 (**19**, 72), pl. 125. Ad. **8**, 567 (**19**, 157), pl. 141.
SEALING vessels, etc. **Jacob.** 21 Ag. 1876. II, **7**, 414 (**17**, 366).
wax. **Radice.** 31 My. 1881. II, **12**, 489 (**26**, 39).
SEAT. *See also* Cane, Chair, Spring, Water-closet.
and easel. **Giosi.** 22 Ja. 1876. II, **7**, 32 (**16**, 484), pl. 8.
SEAWEED padding. **Loire.** 10 O. 1879. II, **8**, 584 (**19**, 174).
treating. **Goulston.** 31 Mr. 1863. (**3**, 441.)*
SEEDER. **Beure et Banet.** 31 Mr. 1858. (**2**, 211.)* (*Sardinia.*)
Cassina. 31 D. 1860. (**2**, 466.)* (*Sardinia*)—Ex. I, **3**, 281 (**7**, 107); II, **1**, 3 (**10**, 3).
Ferreri. 30 S. 1856. (**1**, 283.)* (*Sardinia.*)
de Fever. 28 F. 1874. II, **5**, 73 (**14**, 182), pl. 11. Ad. **6**, 64 (**15**, 332), pl. 15—Ex. **6**, 171 (**15**, 439); **7**, 195 (**17**, 147).
Nobili. 20 F. 1878. II, **9**, 88 (**19**, 443), pl. 22.
Zander. 31 D. 1863. (**4**, 131.)*
SEMAPHORE. **Guattari.** 3 Mr. 1873. II, **4**, 104 (**13**, 84), pls. 29, 30.
signal. **Sgarzi.** 15 O. 1874. II, **5**, 489 (**15**, 98), pl. 113.
SEPARATOR. *See also* Coin, Cork, Grain, Mill dust, Olive stone, Ore, Sewage, Steam, Water-closet.
Bérenger. 10 Ag. 1877. II, **8**, 458 (**19**, 48), pl. 119.
Schultze. 21 S. 1872. II, **3**, 429 (**12**, 329), pl. 99.
universal. **Braun.** 7 D. 1875. II, **6**, 639 (**16**, 407), pl. 141.
SEWAGE disinfecting and evaporating. **de Podewils.** 16 Jl. 1881. II, **12**, 633 (**26**, 183), pls. 155, 156.
separator. **Loynes.** 22 Je. 1874. II, **5**, 298 (**14**, 407), pl. 73.
— **Mayrargues.** 22 My. 1871. II, **2**, 143 (**11**, 65), pl. 31.
— **Medail.** 28 F. 1871. II, **2**, 47 (**10**, 469), pl. 7—Ex. **5**, 21 (**14**, 130). Ad. **5**, 22 (**14**, 131), pl. 2.
treating. **Hillé.** 24 N. 1876. II, **7**, 559 (**18**, 12).
— **Manning.** 3 F. 1869. I, **6**, 36 (**9**, 52), pl. 11.
water treatment. **Anderson.** 19 Je. 1872. II, **3**, 257 (**12**, 157).
— **Campbell.** 13 Jl. 1872. II, **3**, 314 (**12**, 214).
SEWER. **Bergamin.** 22 Ap. 1873. II, **4**, 163 (**13**, 143), pl. 46.
Waring. 29 Ap. 1881. II, **12**, 380 (**25**, 430), pl. 95.
pipe man-hole. **Ballada e Rollini.** 22 Mr. 1882. II, **13**, 225 (**27**, 437), pl. 57.
trap. **Beck.** 9 N. 1881. II, **12**, 1023 (**27**, 73), pl. 277.
— **Del Buono.** 30 Je. 1879. II, **10**, 422 (**22**, 122), pl. 123.
— **Lossa.** 20 N. 1871. II, **2**, 415 (**11**, 337), pl. 96.
— **Muratori.** 16 Ag. 1879. II, **10**, 559 (**22**, 259), pl. 156.
— **Pastore.** 19 Jl. 1875. II, **6**, 391 (**16**, 159), pl. 83.
— **Pastore.** 26 D. 1876. II, **7**, 611 (**18**, 64), pl. 155.
— **Pinedo.** 25 O. 1876. II, **7**, 515 (**17**, 468), pl. 130.
— **Plastino.** 30 Ag. 1871. II, **2**, 293 (**11**, 215), pl. 64.
— **Plastino.** 16 O. 1871. II, **2**, 341 (**11**, 263), pl. 73. Ad. **2**, 439 (**11**, 861), pl. 92.
— **Pohl.** 28 Mr. 1881. II, **12**, 237 (**25**, 286), pl. 56.
— **de Rubertis.** 21 Ag. 1876. II, **7**, 412 (**17**, 364), pl. 103.
— **Russo.** 22 S. 1874. II, **5**, 455 (**15**, 64), pl. 108.
— **Russo.** 11 Ja. 1876 II, **7**, 2 (**16**, 454), pl. 2.
— **Sbigoli.** 25 S. 1871. II, **2**, 315 (**11**, 237), pl. 68.
valve. **Pastore.** 27 N. 1871. II, **2**, 421 (**11**, 343), pl. 86.
SEWERAGE. **Liernur.** 31 Mr. 1874. II, **5**, 105 (**14**, 214), pls. 21, 22.
SEWING leather. **Thomas.** 31 D. 1872. II, **3**, 579 (**12**, 479).
machine. **Andrews.** 23 Je. 1873. II, **4**, 293 (**13**, 273), pl. 79.
— **Bacon.** 28 Ag. 1872. II, **3**, 388 (**12**, 288), pl. 97.
— **Bassermann e Mondt.** 31 D. 1870. II, **1**, 414 (**10**, 414), pl. 103—Ex. **2**, 38 (**10**, 460).
— **Becker.** 29 D. 1874. II, **5**, 648 (**15**, 257), pl. 156.
— **Belding.** 12 O. 1866. I, **3**, 230 (**7**, 56), pl. 6.
— **Belluardi.** 30 Je. 1862. (**3**, 291.)*
— **Bertin.** 15 D. 1877. II, **8**, 725 (**19**, 315), pl. 195.
— **Bland.** 30 Mr. 1875. II, **6**, 141 (**15**, 409), pl. 27—Ex. **7**, 97 (**17**, 49); **12**, 194 (**25**, 244).
— **Bosworth.** 22 D. 1868. I, **5**, 430 (**9**, 1), pl. 129.
— **Bruncker.** 23 Je. 1881. II, **12**, 563 (**26**, 113), pl. 143.
— **de Bul.** 25 Mr. 1875. II, **7**, 146 (**17**, 98), pl. 34.
— **Carmagnolle.** 6 D. 1879. II, **10**, 808 (**23**, 8), pl. 229.
— **Decker.** 30 Je. 1854. (**2**, 94.)* (*Sardinia.*)
— **Deville-Chabrol.** 31 Mr. 1856. (**1**, 145.)* (*Sardinia.*)
— **Goodwin.** 30 D. 1860. (**2**, 472.)* (*Sardinia.*)
— **Gray.** 7 F. 1877. II, **8**, 60 (**18**, 150), pl. 16. Ad. **12**, 1192 (**27**, 242), pl. 333.
— **Gritzner.** 16 My. 1878. II, **9**, 299 (**20**, 154), pl. 79—Ex. **12**, 578 (**26**, 128).

SEWING machine—continued.
— **Gritzner et Cie.** 30 S. 1879. II, **10**, 651 (**22**, 351), pls. 179, 180.
— **Grover.** 30 S. 1858. (**2**, 125.)* (*Sardinia.*)
— **Grover and Baker.** 30 Je. 1855. (**1**, 24.)* (*Sardinia.*)
— **Guillaume e Lambert.** 25 Ap. 1882. II, **13**, 355 (**28**, 127), pl. 94.
— **Gutmann.** 16 S. 1869. I, **6**, 358 (**9**, 374), pl. 124.
— **Hooper.** 26 Jl. 1879. II, **10**, 491 (**22**, 191), pls. 136, 137.
— **House.** 11 My. 1869. I, **6**, 189 (**9**, 205), pl. 52.
— **Juengst.** 31 D. 1879. II, **10**, 892 (**23**, 92), pl. 250.
— **Junker et Ruh.** 8 Jl. 1878. II, **9**, 425 (**20**, 280), pl. 127.
— **Lightowler.** 31 D. 1878. II, **9**, 827 (**21**, 182), pl. 242.
— **Manuelli.** 8 My. 1877. II, **8**, 248 (**18**, 338), pl. 70.
— **Mennons.** 30 Je. 1861. (**3**, 61.)*
— **Mestrallet.** 11 My. 1869. I, **6**, 191 (**9**, 207), pl. 54.
— **Mollard, Garzena, Tealdi e Comp.** 31 Mr. 1858. (**2**, 73.)* (*Sardinia.*)
— **Moore.** 25 O. 1865. I, **2**, 282 (**6**, 266), pls. 81, 82—Ex. **3**, 243 (**7**, 69).
— **Norton.** 24 Ap. 1866. I, **3**, 117 (**6**, 443), pl. 37.
— **Peugeot.** 1 Je. 1868. I, **5**, 166 (**8**, 236), pl. 45.
— **Sabot.** 14 Jl. 1870. II, **1**, 295 (**10**, 295), pl. 74.
— **Taylor.** 27 My. 1873. II, **4**, 244 (**13**, 224), pl. 64.
— **de Villamil.** 30 Je. 1856. (**1**, 245.)* (*Sardinia.*)
— **Willcox.** 30 S. 1871. II, **2**, 332 (**11**, 254), pl. 70—Ex. **3**, 443 (**12**, 343); **8**, 539 (**19**, 129).
— **Willcox e Gibbs.** 20 Mr. 1882. II, **13**, 205 (**27**, 447), pl. 56.
— **Wiseman.** 31 Mr. 1879. II, **10**, 187 (**21**, 387), pl. 57.
— **Woodruff, Anderson, Mort e Browning.** 29 N. 1879. II, **10**, 782 (**22**, 482), pls. 216, 217.
— buttonhole. **Grimmer e Nasch.** 27 Ap. 1871. II, **2**, 116 (**11**, 38), pl. 27.
— — **Gutmann.** 18 Ja. 1882. II, **13**, 37 (**27**, 309), pl. 10.
— — **Kallmeyer e Schmidt.** 26 Ag. 1875. II, **6**, 455 (**16**, 223), pl. 105.
— chain-stitch. **Willcox e Gibbs.** 21 Ap. 1881. II, **12**, 343 (**25**, 393), pls. 80, 81.
— eyelet-hole. **Mills.** 31 O. 1881. II, **12**, 979 (**27**, 29), pl. 264.
— glove. **Perrare-Michal.** 9 Ap. 1877. II, **8**, 182 (**18**, 272), pls. 51, 52.
— — **Schulze.** 30 Ap. 1877. II, **8**, 240 (**18**, 330), pl. 64.
— leather. **Mills.** 23 Ap. 1881. II, **12**, 351 (**25**, 401), pls. 85–87.
— — **Sickels.** 31 D. 1861. (**3**, 149.)*
— motor. **Adam e Garcin sorelle.** 30 S. 1869. I, **6**, 365 (**9**, 381), pl. 126.
— — **Redon e Comp.** 30 O. 1874. II, **5**, 531 (**15**, 140), pl. 123.
— — **Schreiber.** 18 S. 1877. II, **8**, 532 (**19**, 122), pl. 134.
— — **Smyth.** 11 Ap. 1874. II, **5**, 161 (**14**, 270), pl. 33.
— needle. **Suplee.** 20 D. 1869. I, **6**, 468 (**9**, 484), pl. 150.
— plaiting attachment. **Pollack.** 10 F. 1872. II, **3**, 46 (**11**, 446), pl. 14.
— regulator. **Morand.** 15 O. 1875. II, **6**, 544 (**16**, 312), pl. 130.
— shoe. **Bazetta.** 29 O. 1877. II, **8**, 628 (**19**, 218), pls. 156–159—Ex. **10**, 79 (**21**, 279).
— — **Blake ed al.** 2 F. 1865. I, **2**, 35 (**6**, 19), pls. 8, 9—Ex. **3**, 50 (**6**, 376); II, **2**, 86 (**11**, 8).
— — **Brandon.** 19 Ap. 1872. II, **3**, 153 (**12**, 53), pl. 39—Ex. **4**, 151 (**13**, 131).
— — **Goodyear.** 15 Mr. 1878. II, **9**, 121 (**19**, 486), pl. 33.
— — **Ruhlmann.** 11 My. 1872. II, **3**, 195 (**12**, 95), pls. 56, 57.
— — **Sheffield e Godfrey.** 18 D. 1872. II, **3**, 556 (**12**, 456), pl. 139.
— shuttle. **Coignard.** 27 My. 1865. I, **2**, 151 (**6**, 135), pl. 32.
— — **Pollack.** 12 D. 1876. II, **7**, 592 (**18**, 45), pl. 152.
— spool. **Miller e Diehl.** 29 D. 1879. II, **10**, 860 (**23**, 60), pl. 245. Ad. I, **11**, 648 (**24**, 249), pl. 187.
— stitch regulating indicator. **Société Bariquand et fils.** 16 My. 1876. II, **7**, 238 (**17**, 190), pl. 55.
— straw. **Carpenter.** 27 Ap. 1876. II, **7**, 213 (**17**, 165), pl. 48—Ex. **10**, 376 (**22**, 76).

SEWING machine—continued.
— straw hat. **Mestallet.** II, **7**, 632 (**18**, 85), pl. 161.
— — **Vom Baur.** 12 Jl. 1873. II, **4**, 341 (**13**, 321), pl. 91.
— — **Willcox.** 6 S. 1880. II, **11**, 626 (**24**, 227), pl. 180.
— thread guide. **Buegler.** 16 N. 1878. II, **9**, 704 (**21**, 59), pl. 215.
— transmission. **Lecoeur.** 23 Je. 1881. II, **12**, 569 **26**, 119), pl. 141.

SHEARING machine, wool. **Garin Curson et Cie.** 28 F. 1880. II, **11**, 102 (**23**, 203), pl. 38—Ex. **12**, 259 (**25**, 309).

SHEARS. *See also* Animal, Cattle, Clipping, Sheep.
animal. **Montelet.** 13 Jl. 1880. II, **11**, 471 (**24**, 72), pl. 136.

SHEEP shears. **Wehrlin.** 27 Je. 1872. II, **3**, 281 (**12**, 181), pl. 75.
washing compound. **Little.** 15 Mr. 1878. II, **9**, 130 (**19**, 485).

SHEETIRON tube machine, elbowed. **Lingke.** 6 N. 1880. II, **11**, 787 (**24**, 388), pl. 227.

SHEETMETAL bending machine. **Delle Piane.** 27 Ap. 1869. I, **6**, 169 (**9**, 185), pl. 53.
— **Fox.** 20 O. 1877. II, **8**, 611 (**19**, 201), pl. 151.
box. **Jahncke.** 18 O. 1878. II, **9**, 642 (**20**, 497), pl. 198.
— **Tardy.** 3 D. 1877. II, **8**, 752 (**19**, 342), pl. 201. Ad. **9**, 380 (**20**, 215), pl. 105.
— manufacture. **Marquet.** 31 D. 1877. II, **8**, 762 (**19**, 352), pl. 204.
corrugating machine. **Bachmeyer ed al.** 31 Mr. 1882. II, **13**, 257 (**28**, 29), pl. 72.
cutting machine. **Bentivoglio.** 19 Je. 1880. II, **11**, 400 (**24**, 1), pl. 115.
— **Cuizinier.** 26 Ag. 1875. II, **6**, 446 (**16**, 214), pl. 103.
— **Rognoni e Pirovano.** 21 Mr. 1877. II, **8**, 132 (**18**, 222), pl. 37.
flooring, etc. **de La Sauce.** 28 F. 1880. II, **11**, 105 (**23**, 206), pl. 38.
joint. **Dufour.** 26 Jl. 1879. II, **10**, 508 (**22**, 208), pl. 142.
punching machine. **Fornara e Comp.** 27 My. 1879. II, **10**, 303 (**22**, 3), pl. 83.
vessel joint. **Fauchers.** 31 D. 1881. II, **12**, 1200 (**27**, 350), pl. 337.
ware manufacture. **Data e Fasano.** 11 Ja. 1876. II, **7**, 1 (**16**, 453), pl. 1.

SHELLER. *See* Corn, Pea.

SHELVES. **Staderini.** 31 D. 1879. II, **10**, 864 (**23**, 64), pl. 243.

SHIELD. **Lué.** 30 Je. 1863. (**4**, 42.)*
infantry. **Renaudin.** 31 Ag. 1868. I, **5**, 307 (**8**, 377), pl. 88.

SHIP. **Bazin.** 18 Ag. 1873. II, **4**, 390 (**13**, 370), pl. 102.
Devoto e Barthe fratelli. 25 My. 1870. II, **1**, 218 (**10**, 218), pl. 51.
Ghisi. 31 D. 1869. I, **6**, 457 (**9**, 473), pls. 147, 148.
Ghisi. 15 D. 1879. II, **10**, 832 (**23**, 32), pls. 233–235—Ex. **11**, 947 (**25**, 48); **13**, 9 (**27**, 281).
Hire ed al. 24 D. 1866. I, **3**, 303 (**7**, 129), pl. 86.
Hirsch. 13 Jl. 1880. II, **11**, 489 (**24**, 90).
Pezzini. 30 Je. 1857. (**1**, 403.)* (*Sardinia.*)
Taverna. 22 My. 1866. I, **3**, 139 (**6**, 465), pl. 47.
Westermann. 22 Ja. 1867. I, **4**, 24 (**7**, 163), pl. 8—Ex. **5**, 440 (**9**, 11), pl. 133.
armor plated. **Brewster.** 15 D. 1877. II, **8**, 724 (**19**, 314), pl. 94.
— **Guano.** 16 O. 1878. II, **9**, 549 (**20**, 454), pls. 189, 190.
— **Oswald.** 25 Jl. 1877. II, **8**, 428 (**19**, 18), pl. 113.
— **Whitley.** 21 Ja. 1867. I, **4**, 7 (**7**, 146), pl. 1.
— attacking. **Barletta.** 29 N. 1864. I, **1**, 503 (**5**, 440), pl. 82.
berth. **Corduan.** 31 Ja. 1879. II, **10**, 33 (**21**, 233), pl. 8.
— **Evans.** 1 F. 1872. II, **3**, 33 (**11**, 433), pl. 10.
— **Porcosi.** 24 My. 1876. II, **7**, 249 (**17**, 201), pl. 58.
bottom cleaning apparatus. **Capponi.** 12 Ap. 1864. I, **1**, 96 (**5**, 32), pl. 6.
— **Cole.** 24 N. 1876. II, **7**, 561 (**18**, 14), pls. 147, 148.
— **Cole.** 15 Mr. 1877. II, **8**, 127 (**18**, 217), pl. 35.
bottom coating. **Gisborne.** 3 Ag. 1864. I, **1**, 402 (**5**, 339).
— **Percy e Jesty.** 19 Ap. 1872. II, **3**, 160 (**12**, 60).
— **Rodyk.** 24 S. 1881. II, **12**, 855 (**26**, 405).
— **Sim.** 11 Mr. 1869. I, **6**, 94 (**9**, 110).
— **Vian.** 7 My. 1864. I, **1**, 200 (**5**, 136).

SHIP—continued.
bottom coating compound. **Dellepiane.** 8 Jl. 1870. II, **1**, 289 (**10**, 289).
bottom preserving. **Bina.** 6 My. 1867. I, **4**, 147 (**7**, 287).
bottom protecting. **Cowper.** 17 Ja. 1866. I, **3**, 5 (**6**, 331).
bunk. **d'Amora.** 30 Mr. 1877. II, **8**, 159 (**18**, 249), pl. 45.
course indicator. **Faraone.** 9 Jl. 1869. I, **6**, 268 (**9**, 284), pl. 90.
— **Rainieri.** 30 N. 1877. II, **8**, 691 (**19**, 281), pl. 180.
furniture. **Thompson.** 31 Jl. 1877. II, **8**, 446 (**19**, 36), pl. 116.
— **Topham.** 15 D. 1877. II, **8**, 719 (**19**, 309), pl. 91.
keel, copper. **Roux.** 6 Ap. 1866. I, **3**, 84 (**6**, 410), pls. 26, 27.
knee bending machine, iron. **Orlando.** 16 Je. 1872. II, **3**, 318 (**12**, 218), pl. 82.
lantern, hoisting. **Oggioni ed al.** 10 Ag. 1868. I, **5**, 267 (**8**, 337), pl. 80.
launching. **Orlando.** 23 Je. 1871. II, **2**, 181 (**11**, 103), pl. 41.
— truck. **Orlando.** 19 Je. 1871. II, **2**, 178 (**11**, 100), pl. 34.
— wedge. **Vianson.** 31 Jl. 1869. I, **6**, 308 (**9**, 324), pl. 102.
light, lighting. **Oggioni.** 20 My. 1869. I, **6**, 201 (**9**, 217), pl. 67.
liquid transporting. **Warden.** 23 Ja. 1871. II, **2**, 11 (**10**, 433), pl. 1—Ex. **2**, 35 (**10**, 457); **3**, 564 (**12**, 464); **7**, 628 (**18**, 81); **10**, 845 (**23**, 45).
oil. **Warden.** 26 Je. 1872. II, **3**, 27 (**11**, 427), pl. 7—Ex. **4**, 15 (**12**, 495); **9**, 33 (**19**, 388); **12**, 55 (**25**, 105).
pitching moderator. **Cozza e Corseri.** 8 Ag. 1873. I, **4**, 378 (**13**, 358), pl. 100—Ex. **5**, 360 (**14**, 469).
pulley. **Damien e Kister.** 27 My. 1873. II, **4**, 247 (**13**, 227).
pump. **Friedmann.** 31 Mr. 1870. II, **1**, 147 (**10**, 147), pl. 32—Ex. **2**, 134 (**11**, 56); **3**, 8 (**11**, 408).
pumping. **Minisini, Howe e Fama.** 20 O. 1879. II, **10**, 692 (**22**, 392), pls. 187, 188—Ex. **11**, 657 (**24**, 258).
raising and lowering. **Clark.** 19 Ap. 1873. II, **4**, 187 (**13**, 167), pls. 50, 51.
raising sunken. **Davis.** 9 N. 1876. II, **7**, 537 (**17**, 490), pl. 136.
— **Fisch.** 7 S. 1866. I, **3**, 208 (**7**, 34), pl. 62. Ad. **3**, 235 (**7**, 61).
— **Girard.** 7 S. 1866. I, **3**, 207 (**7**, 33), pl. 63.
— **Giraud.** 12 O. 1866. I, **3**, 222 (**7**, 48).
— **Orsi.** 20 Jl. 1865. I, **2**, 209 (**6**, 193).
— **Peruto e Croce.** 20 O. 1880. II, **11**, 726 (**24**, 327), pl. 210.
— **Pollavini.** 30 Je. 1863. (**3**, 474)*—Ex. I, **1**, 366 (**5**, 303).
— **Raydt.** 30 N. 1878. II, **9**, 725 (**21**, 80), pl. 220.
— **Rocco e Pautrier.** 30 Mr. 1874. II, **5**, 131 (**14**, 240), pl. 30.
— **Sowerbutts.** 30 S. 1873. II, **4**, 471 (**13**, 451), pl. 134.
— **Vafea.** 30 Mr. 1874. II, **5**, 133 (**14**, 242), pl. 32.
— **Vallée.** 14 F. 1867. I, **4**, 68 (**7**, 207), pl. 23.
— **Vassallo.** 26 D. 1876. II, **7**, 605 (**18**, 58), pl. 155.
— **Viotti.** 30 S. 1855. (**1**, 62.)* (*Sardinia.*)
removing cargo from sunken. **Gambaro.** 6 N. 1869. I, **6**, 402 (**9**, 418).
riggings, coating for. **Guibert.** 23 Jl. 1868. I, **5**, 243 (**8**, 313.)
saving. **Nicoli.** 15 S. 1876. II, **7**, 442 (**17**, 394), pl. 110.
side strengthening. **Barthes.** 30 S. 1861. (**3**, 87.)*
side washer. **Poupel.** 31 D. 1861. (**3**, 189.)*
spar. **Bianchi.** 21 Mr. 1874. II, **5**, 103 (**14**, 212), pl. 23.
speed indicator. **Faraone.** 20 Jl. 1871. II, **2**, 233 (**11**, 155), pl. 51.
submarine. **Nordenfelt.** 12 S. 1881. II, **12**, 816 (**26**, 366), pl. 217.
transporting and raising. **Rolando.** 18 Jl. 1854. 87.* (*Sardinia.*)
ventilating. **Viehoff e Woss.** 25 Ja. 1873. II, **4**, 37 (**13**, 17), pl. 3.

SHIP ventilating—continued.
— baling out and alarm. **Thiers.** 13 S. 1871. II, **2**, 308 (**11**, 230), pl. 67.
ventilator. **Foulis.** 30 N. 1878. II, **9**, 735 (**21**, 90), pl. 220.
war. **Caudwell.** 31 Mr. 1864. (**4**, 190.)*
— **Elder.** 23 Jl. 1868. I, **5**, 245 (**8**, 315), pls. 76–78.
— **Woodbury.** 30 S. 1862. (**3**, 304.)*
SHIRT. **Benger Söhne.** 19 My. 1881. II, **12**, 430 (**25**, 480), pl. 114.
Cordini. 31 Ag. 1881. II, **12**, 781 (**26**, 331).
Gagnol et Clerc. 26 Ap. 1879. II, **10**, 247 (**21**, 447), pl. 66.
Pellegrin. 12 N. 1872. II, **3**, 496 (**12**, 396), pl. 120.
anti-cholera. **Sertorio e Cocchi.** 28 Ag. 1873. II, **4**, 423 (**13**, 403), pl. 112.
bosom. **Albiges.** 30 Je. 1861. (**3**, 84.)*
SHOE. *See also* Car-brake, Ox, Pile.
Beltrami. 13 Ap. 1881. II, **12**, 317 (**25**, 367).
Bena e Campassi. 30 N. 1881. II, **12**, 1059 (**27**, 109), pl. 292.
Brunet. 29 O. 1872. II, **3**, 482 (**12**, 382), pl. 110.
Colivicchi. 26 O. 1880. II, **11**, 754 (**24**, 355), pl. 216.
Comolli. 6 Ag. 1880. II, **11**, 537 (**24**, 138).
Dotti. 19 D. 1864. I, **1**, 525 (**5**, 462), pl. 84.
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Orsi. 31 O. 1881. II, **12**, 977 (**27**, 27), pl. 262.
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— **Wulff.** 31 Jl. 1873. II, **4**, 372 (**13**, 352), pl. 97.
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— **Johnson.** 30 S. 1859. (**2**, 273.)* (*Sardinia.*)
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— belt, etc. **Lemercier.** 30 S. 1862. (**3**, 345)*—Ex. I, **1**, 428 (**5**, 365).
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SHUTTER. **Gili fratelli.** 30 Je. 1863. (**4**, 41.)*
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— **Borghi e Verga.** 30 Mr. 1877. II, **8**, 168 (**18**, 258), pl. 47.
— **Clerici.** 30 Ap. 1875. II, **6**, 203 (**15**, 471), pl. 38—Ex. **9**, 201 (**20**, 56).
— **Lancini.** 11 Mr. 1880. II, **11**, 131 (**23**, 232), pl. 46.
— **Monti e Sommaruga.** 23 Ap. 1880. II, **11**, 240 (**23**, 341), pl. 69.
— **Sommaruga.** 3 Je. 1875. II, **6**, 284 (**16**, 52), pl. 62.
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Toussaint, Langlois et Huyttens de Terbecq. 30 D. 1860. (**2**, 453.) Ad. (**1**, 96).* (*Sardinia.*)
centrifugal. **Nagel e Kaemp.** 22 O. 1874. II, **5**, 496 (**15**, 105), pl. 112.
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d'Antola. 28 F. 1878. II, **9**, 110 (**19**, 465), pl. 30.

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Bacot. 8 My. 1877. II, **8**, 246 (**18**, 336), pl. 70.
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Williams. 18 N. 1879. II, **10**, 758 (**22**, 458), pls. 208–210.
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— **Colomb.** 16 Je. 1864. I, **1**, 309 (**5**, 245), pl. 33—Ex. II, **1**, 271 (**10**, 271).
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SILK article manufacture. **Imbs.** 18 Je. 1875. II, **6**, 314 (**16**, 82).
assorting. **Castoldi.** 30 Je. 1861. (**3**, 53.)*
baling machine. **Conrotto.** 31 Mr. 1861. (**3**, 12.) Ad. (**1**, 110).*
boiling. **Nogaret et Bousquier.** 20 F. 1877. II, **8**, 71 (**18**, 161), pl. 22.
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— **Mangano.** 26 F. 1869. I, **6**, 64 (**9**, 80), pl. 20.
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— **Gavazzi fratelli.** 3 F. 1877. II, **8**, 49 (**18**, 139), pl. 15.
cleaning and doubling machine. **Citterio.** 31 My. 1873. II, **4**, 250 (**13**, 230), pl. 67—Ex. **10**, 313 (**22**, 13).
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— **Marchi.** 21 D. 1868. I, **5**, 428 (**8**, 499), pl. 129—Ex. II, **3**, 6 (**11**, 406); **6**, 9 (**15**, 277).
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cocoon drier. **Chiazzari de Torres.** 27 Je. 1872. II, **3**, 278 (**12**, 178), pl. 74. Ad. **4**, 2 (**12**, 482).
— **Molteni.** 16 Ag. 1871. II, **2**, 261 (**11**, 183), pl. 56.
— **Orlandi.** 26 Mr. 1872. II, **3**, 111 (**12**, 11), pl. 33.
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cocoon holder. **Vagnone.** 8 S. 1866. I, **3**, 209 (**7**, 36), pl. 62. Ad. **4**, 65 (**7**, 204), pl. 23—Ex. **4**, 309 (**7**, 449).
cocoon macerating. **Giretti.** 31 D. 1863. (**4**, 151.)*
cocoon opening. **Frigerio.** 30 Je. 1861. (**3**, 94.)*
— **Pisani.** 30 D. 1876. II, **7**, 624 (**18**, 77), pl. 160. Ad. **8**, 742 (**19**, 332), pl. 197.
— diseased. **Capelletto.** 25 Ag. 1870. II, **1**, 327 (**10**, 327).
— machine. **Gadduni.** 1 My. 1872. II, **3**, 185 (**12**, 85), pl. 50—Ex. **9**, 278 (**20**, 133).
— under water. **Conti.** 18 Ap. 1865. I, **2**, 128 (**6**, 112), pl. 31.
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cocoon preparing. **Chartron père et fils.** 18 Je. 1875. II, **6**, 311 (**16**, 79), pl. 68. Ad. **6**, 470 (**16**, 235).
— **Limet.** 25 My. 1870. II, **1**, 216 (**10**, 216), pl. 55.
cocoon spinning. **Alcan.** 30 S. 1855. (**1**, 84.)* (*Sardinia.*)
— **Baumann.** 5 D. 1867. I, **4**, 394 (**8**, 35), pl. 119—Ex. II, **1**, 361 (**10**, 361).
— **Besana.** 30 S. 1857. (**1**, 453.)* (*Sardinia.*)
— **Delprino.** 31 Mr. 1861. (**3**, 46.)*
— **Cargarico.** 13 N. 1871. II, **2**, 400 (**11**, 322), pl. 88.
— **Fraissinet et Saillens.** 30 S. 1875. II, **6**, 532 (**16**, 300), pl. 129.
— **Gautier.** 30 Je. 1856. (**1**, 197.)* (*Sardinia.*)
— **Lanfranconi.** 19 D. 1868. I, **5**, 406 (**8**, 477), pls. 118, 119.
— **Mangano.** 21 F. 1869. I, **6**, 65 (**9**, 81), pl. 22.
— **Meille.** 4 My. 1876. II, **7**, 219 (**17**, 171), pl. 53. Ad. **8**, 403 (**18**, 493), pl. 108.
— **Mouvend.** 14 Ja. 1876. II, **7**, 20 (**16**, 472), pl. 4.
— **Opizzi.** 31 Mr. 1860. (**2**, 348.)* (*Sardinia.*)
— **Palayes, Heyen, Enont et Richard.** 31 Mr. 1863. (**3**, 479.)*
— **Panisset.** 31 Mr. 1864. (**4**, 178.)* Ad. I, **2**, 253 (**6**, 237), pl. 66—Ex. **1**, 113 (**5**, 49); **6**, 60 (**9**, 76). Ad. II, **1**, 242 (**10**, 242), pl. 66.
— **Pelucchi.** 3 My. 1869. I, **6**, 174 (**9**, 190).
— **Scacchi.** 26 O. 1865. I, **2**, 286 (**6**, 270), pl. 83.
— **Serpieri.** 30 Je. 1863. (**3**, 477.)*
— **Sigismondi.** 21 D. 1881. I, **12**, 1118 (**27**, 168).
— basin. **Bianchi.** 21 D. 1868. I, **5**, 418 (**8**, 489), pl. 120.
— — **Padernello.** 25 O. 1871. II, **2**, 369 (**11**, 291), pl. 79. Ad. **3**, 96 (**11**, 496), pl. 33—Ex. **3**, 416 (**12**, 316).
— bath. **Bianchi.** 23 Mr. 1870. II, **1**, 104 (**10**, 104), pl. 22.
— — **Bianchi.** 15 Mr. 1871. II, **2**, 66 (**10**, 488), pl. 9.
— machine. **de Montencamps e Ziegler.** 16 O. 1878. II, **9**, 612 (**20**, 467), pl. 194.
— steam condenser. **Gaffuri.** 31 D. 1875. II, **6**, 674 (**16**, 442), pl. 171. Ad. **7**, 380 (**17**, 332), pl. 96.
— ungumming, and dyeing. **Gaffuri.** 20 Jl. 1879. II, **10**, 485 (**22**, 185).
cocoon stripper. **Caretti.** 15 My. 1879. II, **10**, 280 (**21**, 480), pl. 79.
cocoon treating. **Daina.** 30 S. 1857. (**1**, 411.)* (*Sardinia.*)
dissolving. **Magnier et Doerflinger.** 18 Mr. 1879. II, **10**, 126 (**21**, 326). Ad. **10**, 675 (**22**, 375).
doubling machine. **Blangetti.** 30 N. 1880. II, **11**, 847 (**24**, 418), pl. 248.
— **Leroux frères.** 17 Mr. 1881. II, **12**, 205 (**25**, 255), pl. 48.
drawing. **Olivier.** 31 Mr. 1856. (**1**, 166.)* (*Sardinia.*)
— apparatus. **Piazza e Anderwalt.** 30 S. 1860. (**2**, 419.)* (*Sardinia.*)
— spinning, and twisting. **Anderwalt e Piazza.** 31 Mr. 1858. (**2**, 37). Ad. (**1**, 64).* (*Sardinia.*)

SILK drawing, spinning, and twisting—continued.
— table. **Francezon, Philip e Faisat.** 12 O. 1880. II, **11**, 704 (**24**, 305), pl. 206.
dressing. **Périnaud.** 30 S. 1856. (**1**, 221.)* (*Sardinia.*)
drying. **Lanzani.** 13 My. 1875. II, **6**, 244 (**16**, 12), pl. 51.
— apparatus. **Milesi.** 26 F. 1869. I, **8**, 63 (**9**, 79), pl. 14.
dyeing before twisting. **Arbenz.** 10 Ag. 1881. II, 12, 740 (**26**, 290).
extracting from mulberry bark. **Charvoz.** 31 Mr. 1863. (**3**, 445.)*
fabric. **Jandin e Duval.** 30 S. 1874. II, **5**, 466 (**15**, 75), pl. 107.
— dressing. **Cantix.** 31 D. 1875. II, **6**, 681 (**16**, 449), pl. 173.
fibers from mulberry bark, extracting and spinning. **Potenza.** R. G. 5 O. 1862. Ex. I, **1**, 410, 423 (**5**, 347, 360).
fleecing machine. **Henrion.** 16 Jl. 1875. II, **6**, 379 (**16**, 147), pl. 80.
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heating apparatus. **Ratti.** 31 Ag. 1880. II, **11**, 597 (**24**, 198), pl. 169—Ex. **12**, 788 (**26**, 318).
imitation. **Metzger et fils.** 30 Je. 1880. II, **11**, 443 (**24**, 44).
lustering machine. **Levinstein.** 31 D. 1860. (**3**, 35.)*
measuring machine, raw. **Dechamp.** 3 F. 1869. I, **6**, 34 (**9**, 50), pl. 8. Ad. **6**, 92 (**9**, 108), pl. 25—Ex. II, **2**, 473 (**11**, 395); **6**, 121 (**15**, 389).
opening gaging. **Veyrin.** 30 D. 1860. (**2**, 455.)* (*Sardinia.*)
opening machine. **Tallachini.** 30 Je. 1860. (**2**, 388.)* (*Sardinia.*)
opening mill. **Mouline.** 30 S. 1874. II, **5**, 467 (**15**, 76), pl. 107.
polishing machine. **Fossati.** 29 N. 1875. II, **6**, 610 (**16**, 378), pl. 146.
— **Raineri** 8 Je. 1867. I, **4**, 171 (**7**, 311), pl. 45.
preparing. **Pye.** 31 Mr. 1857. (**1**, 333.)* (*Sardinia.*)
— machine. **Greenwood.** 26 F. 1874. II, **5**, 69 (**14**, 178), pl. 16.
reel. **Albrizzi.** 23 O. 1880. II, **11**, 745 (**24**, 346), pl. 214. Ad. **12**, 136 (**25**, 186), pl. 33—Ex. **13**, 17 (**27**, 289).
— **Erba.** 23 My. 1870. II, **1**, 207 (**10**, 207), pl. 52.
— **Leroux.** 31 My. 1879. II, **10**, 336 (**22**, 36), pls. 91, 92. Ad. **12**, 390 (**25**, 440), pls. 97, 98.
— **Majocchi.** 31 My. 1881. II, **12**, 469 (**26**, 19), pl. 110.
— **Mouline.** 23 Je. 1871. II, **2**, 184 (**11**, 106), pl. 37.
— **Oddone.** 31 D. 1856. (**1**, 389.)* (*Sardinia.*)
— **Visetti.** 5 Je. 1877. II, **8**, 315 (**18**, 405), pl. 86.
— measurer. **Dechamp.** 10 Ag. 1868. I, **5**, 260 (**8**, 330), pl. 79—Ex. II, **2**, 472 (**11**, 394).
reeling. **Camel e Olivier** 21 Mr. 1874. II, **5**, 122 (**14**, 231), pl. 25—Ex. **11**, 195 (**23**, 296).
— **Carissimo ed al.** 23 Jl. 1868. I, **5**, 256 (**8**, 326), pl. 75.
— **Germain de Montauzan.** 15 O. 1872. II, **3**, 468 (**12**, 368), pl. 115. Ad. **4**, 512 (**13**, 492), pl. 143.
— **Serrell.** 22 Jl. 1880. II, **11**, 504 (**24**, 105), pl. 143.
— **Vagnone.** 1 Je. 1868. I, **5**, 183 (**8**, 253), pl. 54.
— and twisting. **Barrès.** 6 My. 1867. I, **4**, 148 (**7**, 288), pl. 47—Ex. II, **4**, 310 (**13**, 290).
— — machine. **Baletti.** 17 Jl. 1868. I, **5**, 224 (**8**, 294), pl. 68.
refuse carding. **Lanzani.** 6 D. 1879. II, **10**, 809 (**23**, 9), pl. 229.
ribbing preventing. **Galbiati.** 30 N. 1880. II, **11**, 849 (**24**, 450)—Ex. **12**, 1158 (**27**, 208).
skein dressing. **Corron.** 17 N. 1875. II, **6**, 595 (**16**, 363), pl. 146.
softening and lustering machine. **Frontini.** 13 Ag. 1880. II, **11**, 557 (**24**, 158).
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— **Buisson.** 31 Mr. 1858. (**2**, 32.)* (*Sardinia.*)
— **Cariboni fratelli.** 9 S. 1872. II, **3**, 411 (**12**, 311), pl. 100.
— **Chazel et Raidon.** 30 Je. 1862. (**3**, 292.)*
— **Ferrero.** 30 Ap. 1875. II, **6**, 210 (**15**, 478). Ad. **6**, 286 (**16**, 54)—Ex. **9**, 282 (**20**, 137).

SILK spinning—continued.
— **Gaffiori.** 10 N. 1877. II, **8**, 637 (**19**, 227), pl. 165.
— **Galbiati.** 23 Ap. 1881. II, **12**, 352 (**25**, 402), pl. 81. Ad. **12**, 854 (**26**, 404), pl. 222.
— **Quest.** 17 S. 1875. II, **6**, 487 (**16**, 255), pl. 117.
— **Raymond.** 30 Ap. 1870. II, **1**, 181 (**10**, 1-1), pl. 45.
— **Remersaro.** 20 Ap. 1872. II, **3**, 173 (**12**, 73), pl. 46.
— **Riollé.** 29 Ap. 1881. II, **12**, 376 (**25**, 426), pl. 93.
— **Siletti.** 30 Je. 1873. II, **4**, 317 (**13**, 297), pl. 83.
— **Simon.** 18 Ag. 1873. II. **4**, 383 (**13**, 363), pl. 101.
— and cleaning machine. **Società anonima per la filatura dei cascami di seta di Meina.** 30 N. 1878. II, **9**, 804 (**21**, 159), pl. 240—Ex. **12**, 1183 (**27**, 233).
— and twisting. **Gonella.** 19 Mr. 1853. 46.* (*Sardinia.*)
— — machine. **Westerman fratelli.** 30 Je. 1858. (**2**, 110.)* (*Sardinia.*)
— apparatus, steam. **Piotti.** 21 Ap. 1870. II, **1**, 159 (**10**, 159), pl. 39.
— basin. **Isella.** 23 O. 1880. II, **11**, 749 (**24**, 350), pl. 218.
— — **Peregalli.** 30 Mr. 1878. II, **9**, 181 (**20**, 36), pl. 44—Ex. **10**, 211 (**21**, 411).
— — **Scarpa.** 20 Je. 1873. II, **4**, 281 (**13**, 261), pl. 76. Ad. **4**, 571 (**14**, 51), pl. 159.
— — **Torbosa.** 24 D. 1880. II, **11**, 902 (**25**, 3), pl. 259.
— — heating. **Mussi e Turri.** 10 O. 1872. II, **3**, 465 (**12**, 365), pl. 110.
— bath. **Bianchi.** 26 Mr. 1872. II, **3**, 115 (**12**, 15), pl. 34—Ex. **4**, 158 (**13**. 138); **5**, 114 (**14**, 223).
— — **Guzzi.** 11 Mr. 1880. II, **11**, 132 (**23**, 233), pl. 45.
— — **Parravicini.** 15 F. 1880. II, **11**, 61 (**23**, 162), pl. 22. Ad. **11**, 610 (**24**, 211), pl. 171.
— — **Scanagatti.** 15 D. 1873. II, **4**, 590 (**14**, 70), pl. 162.
— beater. **Casari.** 21 Ap. 1875. II, **6**, 201 (**15**, 469), pl. 41.
— — **Corti.** 6 D. 1879. II, **10**, 814 (**23**, 14), pl. 229.
— — **Spenlé.** 15 Mr. 1876. II, **7**, 111 (**17**, 63), pl. 26. Ad. **7**, 359 (**17**, 311), pl. 89.
— — **Todeschini.** 22 S. 1873. II, **4**, 454 (**13**, 434), pl. 123.
— bench. **Citterio.** 28 Mr. 1873. II, **4**, 150 (**13**, 130), pl. 43.
— — **Gonzales.** 28 F. 1873. II, **4**, 148 (**13**, 128), pl. 38.
— boiler. **Francetti.** 30 S. 1855. (**1**, 104.)* (*Sardinia.*)
— — **Taddei.** 15 Mr. 1877. II, **8**, 120 (**18**, 210), pl. 32.
— — **Traverso fratelli.** 20 N. 1876. II, **7**, 549 (**18**, 2), pl. 143.
— by illuminating gas. **Mouline.** 29 Mr. 1882. II, **13**, 249 (**28**, 21).
— cold. **Zambremi.** 5 Ag. 1871. II, **2**, 244 (**11**, 166).
— doubling. **Aubenas.** 25 Mr. 1881. II, **12**, 223 (**25**, 273), pl. 54.
— establishment. **Gaffuri.** 9 Mr. 1881. II, **12**, 176 (**25**, 226), pl. 42.
— furnace. **Riva.** 25 N. 1869. I, **6**, 438 (**9**, 454), pl. 140.
— head. **Mouline.** 31 D. 1868. II, **9**, 834 (**21**, 189), pl. 247.
— heater. **Cima-Bodino e Candiani.** 30 Je. 1856. (**1**, 171.)* (*Sardinia.*)
— — and ventilator. **Cochard.** 30 My. 1871. II, **2**, 156 (**11**, 78), pl. 29—Ex. **3**, 285 (**12**, 185); **8**, 397 (**18**, 487).
— heating and ventilating. **Tesini.** 4 N. 1871. II, **2**, 395 (**11**, 317), pl. 85.
— machine. **Bonaldi.** 30 S. 1856. (**1**, 239.)* (*Sardinia.*)
— — **Duseigneur.** 1 Je. 1868. I, **5**, 176 (**8**, 246), pl. 54.
— — **Dickins.** 30 S. 1856 (**1**, 273.)* (*Sardinia.*)
— polishing apparatus. **Weilenmann.** 15 N. 1866. I, **3**, 251 (**7**, 77), pl. 70.
— reeling, cleaning. **Società per la filatura dei cascami di seta.** 31 Ja. 1876. II, **7**, 45 (**16**, 497), pl. 8.
— spindle. **Perinetti.** 5 Je. 1871. II, **2**, 158 (**11**, 80), pl. 34.
— — **Pozzi fratelli.** 31 Ag. 1881. II, **12**, 783 (**26**, 333), pl. 203.
— — **Zuppinger.** 30 Je. 1855. (**1**, 34.)* (*Sardinia.*)
— steam. **Bondi fratelli.** 27 Ag. 1870. II, **1**, 341 (**10**, 341), pl. 86.

SILK spinning, steam—continued.
— — **Guzzi.** 23 Ja. 1875. II, **6**, 33 (**15**, 301), pl. 8.
— — **Scanagatti.** 31 O. 1873. II, **4**, 533 (**14**, 13), pl. 149.
— — **Traverso.** 12 My. 1864. I, **1**, 205 (**5**, 141), pl. 30—Ex. **4**, 232 (**7**, 372); II, **3**, 295 (**12**, 195).
— under water. **Galbiati.** 31 Mr. 1879. II, **10**, 200 (**21**, 400), pl. 59. Ad. **10**, 628 (**22**, 328), pl. 175—Ex. **13**, 269 (**28**, 41).
— ventilator. **Valli.** 20 My. 1871. II, **2**, 130 (**11**, 52), pl. 31.
— water heater. **Pontanari.** 28 Mr. 1875. II, **6**, 119 (**15**, 387), pl. 24.
stealing preventing. **Galbiati.** 10 Jl. 1871. II, **2**, 211 (**11**, 133), pl. 48.
steaming. **Serra-Gropelli.** 24 S. 1875. II, **6**, 513 (**16**, 281), pl. 125.
stretching and lustering. **Levinstein.** 30 Je. 1862. (**3**, 298.)*
testing machine. **Serrell.** 8 Mr. 1881. II, **12**, 170 (**25**, 220), pl. 41.
throwing. **Bertholon.** 17 F. 1882. II, **13**, 109 (**27**, 381), pl. 33.
— mill. **Duseigneur.** 5 Je. 1871. II, **2**, 161 (**11**, 83), pl. 35. Ad. **2**, 407 (**11**, 329), pl. 86.
treating. **Casali.** 20 N. 1871. II, **2**, 414 (**11**, 336), pl. 90—Ex. **4**, 9 (**12**, 489).
— **Imbs.** 29 N. 1875. II, **6**, 611 (**16**, 379).
— **Keller.** 31 Mr. 1863. (**3**, 436)*—Ex. I, **1**, 148 (**5**, 84); **4**, 42 (**7**, 181). Ad. II, **2**, 145 (**11**, 67), pl. 31.
— **Vergottini.** 31 D. 1856. (**1**, 288.)* (*Sardinia.*)
— cold. **Castellani fratelli.** 30 D. 1872. II, **3**, 567 (**12**, 467).
— stove. **Solei.** 4 S. 1874. II, **5**, 437 (**15**, 46), pl. 103.
twisting. **Barchetta e Montecucco.** 20 Mr. 1872. II, **3**, 108 (**12**, 8), pl. 32.
— **Bernasconi e Riva.** 8 Ag. 1874. II, **5**, 377 (**14**, 486) pl. 88.
— **Daina.** 18 O. 1878. II, **9**, 632 (**20**, 487), pl. 197.
— **Lazzaroni.** 23 Je. 1879. II, **10**, 389 (**22**, 89), pl. 108.
— and winding machine. **Chadwick, Elliot et Robertson.** 31 D. 1858. (**2**, 192.)* (*Sardinia.*)
— machine. **Gioia.** 20 Ap. 1874. II, **5**, 182 (**14**, 291), pl. 40.
— — **Pozzi.** 25 Ap. 1874. II, **5**, 188 (**14**, 297), pl. 39.
utilizing coarse outside. **Girerd-Chalumet.** 31 Ja. 1874. II, **5**, 38 (**14**, 147).
vegetable. **Perelli-Ercolini fratelli.** 30 Je. 1856. (**1**, 201.)* (*Sardinia.*)
waste combing. **Henrion.** 30 D. 1860. (**2**, 451.)* (*Sardinia.*)
waste dressing machine. **Grenwood.** 25 Ja. 1865. I, **2**, 24 (**6**, 8), pls. 3, 4.
waste working machine. **Charlon e Delas.** 30 Ap. 1875. II, **6**, 213 (**15**, 481), pl. 44.
winding. **Durand frères.** 16 N. 1878. II, **9**, 685 (**21**, 40), pl. 208.
— **Fleissner.** 26 N. 1868. I, **5**, 375 (**8**, 446)—Ex. II, **7**, 464 (**17**, 416).
— and cleaning. **Gavazzi.** 30 S. 1859. (**2**, 265.)* (*Sardinia.*)
— and twisting. **Grondoni.** 31 D. 1856. (**1**, 306.)* (*Sardinia.*)
— on thread. **Lavenaz.** 31 Mr. 1881. II, **12**, 277 (**25**, 327), pl. 67.
working machine. **Chadwick et Elliot.** 30 S. 1858. (**2**, 132.)* (*Sardinia.*)
works heating. **Duseigneur.** 8 Ag. 1854. 95.* (*Sardinia.*)
worm basin heating by steam. **Chiarini.** 24 Ja. 1870. II, **1**, 26 (**10**, 26), pl. 3—Ex. **4**, 17 (**12**, 497).
worm box, straw. **Trevisan.** 19 N. 1869. I, **6**, 421 (**9**, 437).
worm culture. **de Bellesini.** 30 S. 1875. II, **6**, 533 (**16**, 301), pl. 129.
— **Bourquet.** 31 D. 1858. (**2**, 179.)* (*Sardinia.*)
— **Delprino e figlia.** 31 S. 1860. (**2**, 456.)* (*Sardinia*)—Ex. I, **1**, 192 (**5**, 128); **3**, 232 (**7**, 58); **4**, 70 (**7**, 209).
— **Mitifiot.** 31 D. 1859. (2, 272.)* (*Sardinia.*)
worm curing. **Galleani.** 9 Ap. 1864. I, **1**, 90 (**5**, 26).
worm egg preserver. **Orlandi.** 14 O. 1880. II, **11**, 717 (**24**, 318), pl. 207.

SILK—continued.
worm egg preserving. **Meynard fratelli.** 30 Je. 1855. (**1**, 30.)* (*Sardinia.*)
— **Orlandi.** 8 My. 1877. II, **8**, 257 (**18**, 347), pl. 73.
— **Susani.** 19 D. 1876. II, **7**, 597 (**18**, 50), pl. 154.
— on paper. **Meynard.** 3 D. 1866. I, **3**, 271 (**7**, 97), pl. 75.
worm egg treating. **Sartori e Bajma-Riva.** 17 My. 1881. II, **12**, 413 (**25**, 463), pls. 102, 103.
worm feeding mulberry paper. **Reidemann.** 20 Ag. 1877. II, **8**, 492 (**19**, 82).
worm frame. **Fornara.** 2 D. 1868. I, **5**, 397 (**8**, 468), pl. 117. Ad. **6**, 151, 399 (**9**, 167, 415), pls. 47, 132—Ex. **6**, 435 (**9**, 451).
— **Marchesi.** 28 O. 1868. I, **5**, 353 (**8**, 423), pl. 104.
— **Marinelli.** 17 Jl. 1880. II, **11**, 498 (**24**, 99), pl. 143—Ex. **12**, 874 (**26**, 424).
— **Negra.** 11 Mr. 1880. II, **11**, 130 (**23**, 231), pl. 45.
— **Pierni.** 10 Ag. 1868. I, **5**, 265 (**8**, 335), pl. 80.
— **Piovano.** 17 F. 1869. I, **6**, 58 (**9**, 74), pl. 14.
— **Tettamanzi.** 30 S. 1856. (**1**, 256.)* (*Sardinia.*)
— **Trevisan.** 28 S. 1870. II, **1**, 363 (**10**, 363), pl. 95.
worm improving. **Jean.** 31 Mr. 1856. (**1**, 150.)* (*Sardinia.*)
worm incubator. **de Bellesini.** 16 Ap. 1881. II, **12**, 323 (**25**, 373), pl. 75.
— **Giani.** 31 Mr. 1860. (**2**, 322.)* (*Sardinia*)—Ex. I, **3**, 99 (**6**, 425).
— **Orlandi.** 27 Ap. 1869. I, **6**, 157 (**9**, 173), pl. 49.
— **Orlandi.** 8 Jl. 1872. II, **3**, 292 (**12**, 192), pl. 68.
— **Taurigna.** 31 D. 1863. (**4**, 161.)*
— **Vannuccini.** 5 Mr. 1880. II, **11**, 119 (**23**, 220), pl. 43.
worm preparing. **Traverso.** 20 N. 1876. II, **7**, 548 (**18**, 1), pl. 142.
worm preserving paper. **Limonta.** 21 Mr. 1870. II, **1**, 91 (**10**, 91).
worm protecting from disease. **Toninetti.** 5 Je. 1869. I, **6**, 230 (**9**, 246).
worm rearing. **Albertazzi.** 18 Je. 1854. 88.* (*Sardinia.*)
worm smothering. **Cavezzali.** 30 Je. 1858. (**2**, 68.)* (*Sardinia.*)
— **Fontana fratelli.** 30 S. 1856. (**1**, 281.)* (*Sardinia.*)
— **Fraissinet e Bean.** 28 O. 1875. II, **6**, 579 (**16**, 347), pl. 138.
— **Maesara.** 25 Ja. 1865. I, **2**, 22 (**6**, 6), pl. 2.
— **Mencarelli ed Amantini.** 28 My. 1881. II, **12**, 451 (**26**, 1), pl. 112.
— **Reymond.** 28 Je. 1868. I, **5**, 220 (**8**, 290).
— **Uziello.** 7 Jl. 1869. I, **6**, 254 (**9**, 270). Ad. II, **1**, 103 (**10**, 103), pl. 22.
— **Vareilles.** 28 Mr. 1873. II, **4**, 138 (**13**, 118), pl. 38.
— **Vitali.** 31 Mr. 1851. (**2**, 61.)* (*Sardinia.*)
— apparatus. **Betti.** 9 F. 1867. I, **4**, 51 (**7**, 190), pl. 19—Ex. **5**, 89 (**8**, 159); II, **1**, 141 (**10**, 141). Ad. **6**, 230 (**15**, 498), pl. 48.
— — **Betti.** 14 Ap. 1869. I, **6**, 138 (**9**, 154), pl. 44.
— — **Gauthier.** 12 S. 1881. II, **12**, 820 (**26**, 370), pl. 217.
— — **Romanin-Jacur.** 8 Ag. 1876. II, **7**, 384 (**17**, 336), pl. 98.
— by hydrosulphuric acid. **Bussi.** 16 Ag. 1877. II, **8**, 475 (**19**, 65).
— compound, carbon sulphoxide. **Massara.** 31 D. 1862. (**3**, 393.)*
— oven. **Allasia.** 18 Jl. 1871. II, **2**, 223 (**11**, 145), pl. 50.
— — **Beretta.** 25 S. 1871. II, **2**, 322 (**11**, 244), pl. 81—Ex. **5**, 453 (**15**, 62). Ad. **5**, 475 (**15**, 84), pl. 107.
— — **Beretta.** 31 My. 1881. II, **12**, 470 (**26**, 20), pl. 121.
— — **Beretta.** 27 O. 1881. II, **12**, 961 (**27**, 11), pl. 259.
— — **Beretta.** 12 D. 1881. II, **12**, 1083 (**27**, 133), pl. 296.
— — **Chiazzari de Torres.** 17 N. 1875. II, **6**, 589 (**16**, 357), pl. 143.
— — **Giretti.** 18 Jl. 1870. II, **1**, 300 (**10**, 300), pl. 76—Ex. **4**, 442 (**13**, 422); **10**, 653 (**22**, 353).
— — **Monti e Comp.** 14 My. 1873. II, **4**, 229 (**13**, 209), pl. 73.
— — **Terzi** 17 Ja. 1870. II, **1**, 4 (**10**, 4), pl. 1.
worm treating compound. **David.** 8 Jl. 1870. II, **1**, 284 (**10**, 284).

SILK—continued.
worm treating dirty. **Manetti.** 9 Jl. 1869. I, **6**, 270 (**9**, 286).
SILO. **Nagel e Kaemp.** 16 Jl. 1881. II, **12**, 647 (**26**, 197), pl. 155.
SILVER. **Romby.** 23 Ap. 1880. II, **11**, 246 (**23**, 347), pls. 72, 73.
coating on iron and steel. **Thompson.** 24 N. 1868. I, **5**, 367 (**8**, 438).
coating on non-amalgamable metals. **Dufresne.** 30 S. 1856. (**1**, 246.)* (*Sardinia.*)
extracting. **Bazin.** 6 Mr. 1879. II, **10**, 109 (**21**, 309), pl. 33.
— **Crookes.** 19 Jl. 1865. I, **2**, 204 (**6**, 188).
— **Crookes.** 4 N. 1865. I, **2**, 303 (**6**, 287).
— **Designolle.** 12 D. 1879. II, **10**, 817 (**23**, 17), pl. 230.
— **Drouin, Dufoure et Devins.** 14 Mr. 1882. II, **13**, 192 (**27**, 464).
— **Macay.** 22 Jl. 1880. II, **11**, 502 (**24**, 103).
— **Maxwell-Lyte.** 28 Jl. 1877. II, **8**, 439 (**19**, 29).
— **Maxwell-Lyte.** 26 Jl. 1879. II, **10**, 505 (**22**, 205), pl. 142.
— **Rössler.** 29 Mr. 1882. II, **13**, 254 (**28**, 26), pl. 68.
— **Ruch.** 31 Ag. 1876. II, **7**, 430 (**17**, 382).
— **Tardani, Ghirelli e Coluzzi.** 15 Ag. 1872. II, **3**, 371 (**12**, 271), pl. 92.
— from copper ore. **Designolle.** 30 Ap. 1881. II, **12**, 387 (**25**, 437), pl. 94.
— from lead. **Berio.** 18 O. 1878. II, **9**, 627 (**20**, 482).
— — **Marin et Roswag.** 31 Mr. 1862. (**3**, 231.) Ad. (**1**, 121)*—Ex. I, **1**, 222 (**5**, 158).
— — **Marques.** 5 Ap. 1864. I, **1**, 82 (**5**, 18), pl. 7.
— — **de Villard.** 9 F. 1853. 44.* (*Sardinia.*)
— — ore. **Bramonti.** 28 O. 1878. II, **9**, 650 (**21**, 5).
— from mixed ores. **Maxwell-Lyte.** 20 Ag. 1877. II, **8**, 494 (**19**, 84).
— from ore. **Drouin et de Baxeres de Torres.** 10 D. 1877. II, **8**, 714 (**19**, 304).
— from refuse. **Ruch.** 26 F. 1876. II, **7**, 82 (**17**, 34).
ore roasting furnace. **Fryer.** 11 Ja. 1876. II, **7**, 11 (**16**, 463), pl. 1.
ore treating. **Clarke e Smith.** 7 My. 1875. II, **6**, 226 (**15**, 494), pl. 47.
— **Destrem.** 30 D. 1859. (**2**, 306.)* (*Sardinia.*)
— **Maxwell-Lyte.** 30 S. 1880. II, **11**, 677 (**24**, 278), pl. 198. Ad. **11**, 850 (**24**, 451); **12**, 1065 (**27**, 115).
— sulphantimonide and sulpharsenide. **de Vauréal.** 20 Ja. 1880. II, **11**, 36 (**23**, 137).
sand treating. **Thénot.** 10 Ag. 1881. II, **12**, 730 (**26**, 280), pl. 87.
separating, electric. **Parodi e Mascazzini.** 20 Mr. 1880. II, **11**, 161 (**23**, 262).
separating from lead. **Flach.** 2 Mr. 1867. I, **4**, 80 (**7**, 219).
— **Guillem.** 28 Ag. 1877. II, **8**, 509 (**19**, 99), pl. 128.
— **Luce fils et Rozan.** 17 N. 1875. II, **6**, 584 (**16**, 352), pl. 142.
— **Musante.** 2 S. 1868. I, **5**, 315 (**8**, 385). Ad. II, **4**, 501 (**13**, 481)—Ex. **5**, 282 (**14**, 291).
— **Wassermann.** 18 Je. 1867. I, **4**, 199 (**7**, 339).
— by electrolysis. **Marquez.** 21 Ja. 1867. I, **4**, 19 (**7**, 158).
separating from zinc. **Borgo.** 28 Ag. 1873. II, **4**, 415 (**13**, 395).
SINGER'S mouth apparatus. **Carrozzi.** 25 O. 1876. II, **7**, 511 (**17**, 464), pl. 129.
SINK. *See* Asphalt.
SIPHON. **Cianferoni.** 31 Ja. 1880. II, **11**, 53 (**23**, 154), pl. 14.
Descours. 24 S. 1881. II, **12**, 826 (**26**, 376), pl. 221.
Frattini. 14 Ag. 1874. II, **5**, 406 (**15**, 15), pl. 94.
Guidi. 20 Mr. 1880. II, **11**, 154 (**23**, 255), pl. 51.
de Lagillardaie. 23 N. 1869. I, **6**, 432 (**9**, 448), pl. 140.
Noll. 30 S. 1876. II, **7**, 470 (**17**, 422), pl. 119.
mine draining, pneumatic. **Cipri.** 16 Ag. 1864. I, **1**, 409 (**5**, 346).
SIZE, leather. **Muhr.** 12 O. 1881. II, **12**, 914 (**26**, 464).
SIZING. **Leigh.** 31 D. 1858. (**2**, 158.)* (*Sardinia.*)
SKATE, roller. **Beaumont e Pilkington.** 27 Je. 1876. II, **7**, 310 (**17**, 262), pl. 73.
— **Bell.** 26 D. 1876. II, **7**, 609 (**18**, 62), pl. 155.
— **Belvallette.** 8 My. 1877. II, **8**, 263 (**18**, 353), pl. 72.

SKATE, roller—continued.
— **Bianchi.** 16 My. 1876. II, **7**, 232 (**17**, 184), pl. 54.
— **Eudrés.** 4 My. 1876. II, **7**, 220 (**17**, 175), pl. 53.
— **Gregg.** 10 O. 1874. II, **5**, 474 (**15**, 83), pls. 110–112—Ex. **11**, 644 (**24**, 245).
— **Keel.** 19 Je. 1876. II, **7**, 292 (**17**, 244), pl. 70.
— **Kunstädter.** 15 S. 1876. II, **7**, 448 (**17**, 400), pl. 111.
— **Mackay.** 14 Jl. 1877. II, **8**, 391 (**18**, 481), pl. 106.
— **Mackay.** 10 D. 1877. II, **8**, 705 (**19**, 295), pl. 286—Ex. **9**, 597 (**20**, 452). Ad. **10**, 191 (**21**, 391), pl. 60—Ex. **10**, 829 (**23**, 29); **11**, 886 (**24**, 487).
— **Morrisson.** 15 Mr. 1876. II, **7**, 116 (**17**, 68), pl. 26.
— **Parker.** 5 Ag. 1871 II, **2**, 245 (**11**, 167), pl. 59—Ex. **8**, 450 (**19**, 40).
— **Parker.** 30 Ag. 1871. II, **2**, 296 (**11**, 218), pl. 64—Ex. **8**, 449 (**19**, 39).
— **Plimpton.** 27 D. 1875. II, **6**, 670 (**16**, 438), pl. 170.
— **Plimpton.** 27 D. 1875. II, **6**, 671 (**16**, 439), pl. 170.
— **Spiller.** 20 F. 1875. II, **6**, 75 (**15**, 342), pl. 16.
— **Waagner.** 29 Ja. 1877. II, **8**, 38 (**18**, 128), pl. 8. Ad. **8**, 459 (**19**, 49), pl. 118.
SKIN, removing thistles from. **Lassalle, ainé.** 20 Jl. 1870. II, **1**, 303 (**10**, 303), pl. 77.
separating hair from. **Tussaud e Tussaud.** 15 D. 1871. II, **2**, 450 (**11**, 372).
treating calf. **Bernard.** 14 My. 1881. II, **12**, 419 (**25**, 469).
SKIRT, waterproof. **Ricard.** 31 O. 1867. I, **4**, 350 (**7**, 491), pl. 102.
SKYLIGHT. **Hilgers.** 25 Ap. 1878. II, **9**, 243 (**20**, 98), pl. 62—Ex. **10**, 257 (**21**, 457); **13**, 265 (**28**, 37).
ventilating. **Liandet.** 9 Ag. 1867. I, **4**, 263 (**7**, 403), pl. 77.
SLATE-CUTTING MACHINE. **Brunton.** 11 Mr. 1869. I, **6**, 91 (**9**, 107), pl. 28.
SLUICE. **Uggeri.** 15 D. 1879. II, **10**, 827 (**23**, 27), pl. 230.
SMELTING FURNACE. **Wilson.** 30 N. 1864. I, **1**, 500 (**5**, 437), pl. 81.
SMOKE catcher. **de Montagu.** 30 S. 1861. (**3**, 106.)*
consumer. **Duméry.** 31 D. 1855. (**1**, 127.)* (*Sardinia.*)
— **Eggers e Kirchmann.** 20 O. 1877. II, **8**, 597 (**19**, 187), pl. 147.
— **Foucon.** 31 Mr. 1859. (**2**, 215.)* (*Sardinia.*)
— **Guzzi.** 21 Mr. 1877. II, **8**, 130 (**18**, 220), pl. 36.
— **Hoyos.** 31 Mr. 1863. (**3**, 494.)*
— **Pozzi.** 20 O. 1880. II, **11**, 729 (**24**, 330), pl. 211—Ex. **13**, 2 (**27**, 274).
— **Siccardo.** 14 S. 1865. I, **2**, 246 (**6**, 230), pl. 68.
— **Tenbrinck.** 30 Je. 1861. (**3**, 58.)*
— superheater. **Tasso e Rostan.** 31 Mr. 1857. (**1**, 358.)* Ad. (**1**, 18.) (*Sardinia.*)
stack flue. **Friedmann.** 30 D. 1878. II, **9**, 797 (**21**, 152), pl. 239. Ad. **10**, 296 (**21**, 496), pl. 81; **10**, 324 (**22**, 24), pl. 91.
SNOW, artificial. **Albini.** 2 Mr. 1881. II, **12**, 134 (**25**, 184), pl. 35—Ex. **13**, 171 (**27**, 443).
— **Mackay.** 31 D. 1880. II, **11**, 917 (**25**, 18), pl. 258.
— **Mackay.** 26 Ja. 1881. II, **12**, 14 (**25**, 64), pl. 4.
— **Mackay.** 26 Ja. 1881. II, **12**, 15 (**25**, 65), pl. 4.
— machine. **Mackay.** 12 Ap. 1881. II, **12**, 307 (**25**, 357), pl. 72.
plow. **Casanova.** 18 Mr. 1879. II, **10**, 124 (**21**, 324), pl. 37.
— stove. **Viora e Baruero.** 30 Je. 1857. (**1**, 435.)* (*Sardinia.*)
preserving. **Fancello.** 30 Je. 1858. (**2**, 80.)* (*Sardinia.*)
SOAP. **de Ferrari.** 25 Ja. 1871. II, **2**, 15 (**10**, 437).
Oneto. 11 D. 1868. I, **5**, 402 (**8**, 473).
Sommer e Eunike. 18 My. 1877. II, **8**, 281 (**18**, 371)—Ex. **9**, 349 (**20**, 204).
Vasseur et Mahot. 31 D. 1863. (**4**, 140.)*
de Werclin. 10 S. 1867. I, **4**, 306 (**7**, 446).
bleaching. **Deiss.** 18 N. 1871. II, **2**, 408 (**11**, 330).
disinfectant. **Buczkowski.** 14 D. 1881. II, **12**, 1098 (**27**, 147).
drier. **Bassi.** 11 Mr. 1880. II, **11**, 133 (**23**, 234), pl. 45. Ad. **11**, 325 (**23**, 234), pl. 92.
floating. **Hilgers.** 27 Ap. 1878. II, **9**, 255 (**20**, 110), pl. 65—Ex. **10**, 440 (**22**, 140).
manufacture. **Barry et Abria.** 30 S. 1860. (**2**, 423.)* (*Sardinia.*)
— **Bastié.** 30 S. 1874. II, **5**, 469 (**15**, 78).

SOAP manufacture—continued.
— **Calvi.** 12 Mr. 1873. II, **4**, 116 (**13**, 96).
— **Cheli.** 31 D. 1859. (**2**, 283.)* (*Sardinia.*)
— **Chiozza.** 12 Ag. 1875. II, **6**, 416 (**16**, 184).
— **Colacicchi.** 11 D. 1871. II, **2**, 448 (**11**, 370), pl. 95—Ex. **4**, 23 (**13**, 3).
— **Curti e Stella.** 30 Je. 1857. (**1**, 398.)* (*Sardinia.*)
— **Gianoli fratelli.** 25 Ja. 1878. II, **9**, 41 (**19**, 396), pl. 10.
— **Green.** 24 F. 1882. II, **13**, 129 (**27**, 401).
— **Liebreich.** 18 Ap. 1882. II, **13**, 332 (**28**, 104).
— **Pietroni.** 30 Je. 1859. (**2**, 260.)* (*Sardinia.*)
— **Riot.** 31 D. 1861. (**3**, 180.)*
— **Salvi.** 31 Mr. 1868. I, **5**, 65 (**8**, 135), pl. 17.
— **Tardani, Ghirelli e Coluzzi.** 7 S. 1872. II, **3**, 408 (**12**, 308), pl. 102.
— **Zanon.** 23 Je. 1873. II, **4**, 299 (**13**, 279).
— castor oil. **Schmidt e Mazzucchetti.** 31 D. 1863. (**4**, 118.)*
— mineral oil. **Barbieux e Rosier.** 11 F. 1879. II, **10**, 66 (**21**, 266).
powder. **Lacalm ed al.** 31 O. 1867. I, **4**, 349 (**7**, 490).
refuse, utilizing for artificial stone. **Py.** 31 O. 1881. II, **12**, 966 (**27**, 16), pl. 251.
resinous. **George.** 25 Ap. 1878. II, **9**, 232 (**20**, 87), pl. 55.
SODA fountain. **Dows ed al.** 22 Jl. 1867. I, **4**, 239 (**7**, 379), pl. 73.
— **Lhote.** 31 D. 1861. (**3**, 139)*—Ex. I, **1**, 250 (**5**, 186).
— **Piccaluga.** 27 Je. 1870. II, **1**, 266 (**10**, 266), pl. 69.
manufacture. **Le Chatelier.** 31 Mr. 1859. (**2**, 223.)* (*Sardinia.*)
water. **Macchi.** 18 O. 1878. II, **9**, 619 (**20**, 474).
SODIUM biborate manufacture. **Cobley.** 25 Ja. 1871. II, **2**, 16 (**10**, 438).
carbonate manufacture. **Balestrieri.** 10 Mr. 1869. I, **6**, 85 (**9**, 101).
— **Blan.** 3 D. 1866. I, **3**, 263 (**7**, 89).
— **Boulouvard** 25 S. 1873. II, **4**, 465 (**13**, 445), pl. 133.
— **Carbonelli.** 8 Jl. 1872. II, **3**, 293 (**12**, 193), pl. 79.
— **Mundo.** 23 Ag. 1872. II, **3**, 380 (**12**, 280).
— **Solvay.** 15 Ag. 1872. II, **3**, 364 (**12**, 264), pl. 92.
— **Young.** 13 Jl. 1872. II, **3**, 313 (**12**, 213), pls. 80, 81—Ex. **4**, 610 (**14**, 90).
— from sea salt. **Campani.** 30 S. 1873. II, **4**, 468 (**13**, 448), pl. 133.
hydrate manufacture. **Schmid.** 16 Jl. 1875. II, **6**, 374 (**16**, 142).
salts manufacture. **de Montblanc et Gaulard.** 30 S. 1880. II, **11**, 674 (**24**, 275), pl. 195.
sulphate manufacture. **Hargreaves.** 18 S. 1877. II, **8**, 543 (**19**, 133), pl. 137.
— **Hargreaves.** 24 F. 1880. II, **11**, 97 (**23**, 193), pl. 35.
— **Hargreaves e Robinson.** 19 Je. 1871. II, **2**, 176 (**11**, 98)—Ex. **4**, 328 (**13**, 308); **8**, 296 (**18**, 386).
— **Hargreaves e Robinson.** 19 Je. 1871. II, **2**, 177 (**11**, 99), pl. 37—Ex. **4**, 329 (**13**, 309); **8**, 297 (**18**, 387).
— **Hargreaves e Robinson.** 19 My. 1873. II, **4**, 238 (**13**, 218), pl. 64.
— **Hargreaves e Robinson.** 14 Ag. 1874. II, **5**, 409 (**15**, 18), pl. 91.
— **Hargreaves e Robinson.** 7 D. 1875. II, **6**, 637 (**16**, 405), pl. 160.
— and sulphur fusion, simultaneous. **Pereira.** 14 O. 1879. II, **10**, 668 (**22**, 368).
SOFA. *See* Bed.
SOLAR camera. **Liebert ed al.** 16 Ap. 1864. I, **1**, 144 (**5**, 80), pl. 13.
motor. **Mouchot.** 16 O. 1878. II, **9**, 607 (**20**, 462), pl. 191.
SOLDERING apparatus, telegraph line. **Lorenzetti.** 8 F. 1882. II, **13**, 93 (**27**, 365), pl. 29.
iron. **Ginnasi Paulucci de Calboli.** 31 Ja. 1881. II, **12**, 46 (**25**, 96) pl. 7.
SOLE. **Lecoq.** 28 Ag. 1878. II, **9**, 527 (**20**, 382), pl. 158.
and heel. **Anghileri.** 3 Ag. 1881. II, **12**, 725 (**26**, 275), pl. 187.
plate, metallic. **Regis.** 3 D. 1866. I, **3**, 266 (**7**, 92), pl. 75.
roughshod. **Latapie.** 6 Ag. 1878. II, **9**, 490 (**20**, 345), pl. 150.
wooden. **Ibos.** 20 D. 1869. I, **6**, 473 (**9**, 489).

SOLUBLES, transporting. **Traverso.** 30 S. 1880. II, **11**, 680 (**24**, 281).
SOLUTION apparatus, chemical. **Macay.** 28 Je. 1881. II, **12**, 574 (**26**, 124), pl. 145.
SOUNDING, deep sea. **Thomson.** 20 S. 1880. II, **11**, 646 (**24**, 247), pl. 185—Ex. **12**, 897 (**26**, 447).
— apparatus. **Guscetti.** 13 Ap. 1881. II, **12**, 313 (**25**, 363), pl. 73.
SOUP. **Capelleto.** 25 Jl. 1877. II, **8**, 425 (**19**, 15).
Durieu Oettli e Comp. 7 Ag. 1875. II, **6**, 404 (**16**, 172).
condensed. **Rossi.** 28 O. 1875. II, **6**, 570 (**16**, 338).
herbs. **Rossi.** 28 O. 1875. II, **6**, 571 (**16**, 339).
SPADE. *See also* Bayonet.
Linnemann. 7 My. 1868. I, **5**, 114 (**8**, 184), pl. 23.
Marinelli. 4 S. 1875. II, **6**, 463 (**16**, 231), pl. 107.
and fork combined. **Naslot.** 20 S. 1866. I, **3**, 212 (**7**, 38), pl. 62.
bayonet. **Wetmore.** 9 Je. 1871. II, **2**, 167 (**11**, 89), pl. 39.
pick. **Prior.** 13 Jl. 1880. II, **11**, 480 (**24**, 81), pl. 136.
SPARK arrester. **Boschan.** 18 Ag. 1873. II, **4**, 386 (**13**, 366) pl. 101.
— **Howe.** 11 My. 1881. II, **12**, 391 (**25**, 441), pl. 96.
— and smoke consumer, steam engine. **Henry.** 31 O. 1867. I, **4**, 357 (**7**, 498), pl. 98.
extinguisher. **Schäffer et Budenberg.** 9 Mr. 1876. II, **7**, 103 (**17**, 55), pl. 23. Ad. **7**, 485 (**17**, 437), pl. 121.
SPEAKING tube. **Bello.** 25 My. 1877. II, **8**, 289 (**18**, 379), pl. 78.
— **Rettig.** 23 Ap. 1880. II, **11**, 249 (**23**, 350), pl. 71—Ex. **12**, 11[illegible] (**25**, 163). Ad. **12**, 450 (**25**, 500), pl. 113.
SPECTACLES. **Goerz.** 26 Ja. 1881. II, **12**, 11 (**25**, 61), pl. 1.
Pult. 8 F. 1878. II, **9**, 63 (**19**, 418), pl. 15—Ex. **10**, 571 (**22**, 271).
SPEED indicator. **Baranowski.** 30 D. 1864. I, **1**, 543 (**5**, 480), pl. 92. Ad. **2**, 76 (**6**, 60), pl. 18.
— **Eggers.** 9 N. 1881. II, **12**, 984 (**27**, 34), pl. 266.
— **Ferrero.** 25 My. 1877. II, **8**, 298 (**18**, 388), pl. 81.
— **Lebreton.** 28 O. 1878. II, **9**, 665 (**21**, 20), pl. 206.
— **Napier.** 22 Jl. 1876. II, **7**, 347 (**17**, 299), pl. 86.
— **Young.** 30 N. 1881. II, **12**, 1057 (**27**, 107), pl. 288.
register. **Morin e Seillière.** 18 N. 1879. II, **10**, 751 (**22**, 451), pl. 206.
SPINDLE. *See* Silk spinning, Spinning.
SPINNING. **Loeffel.** 31 My. 1879. II, **10**, 326 (**22**, 26), pl. 90. Ad. **10**, 563 (**22**, 263), pl. 156.
Maniquet. 31 D. 1857. (**2**, 10.)* (*Sardinia.*)
Siccardi. 28 My. 1868. I, **5**, 156 (**8**, 226), pl. 43—Ex. II, **2**, 196 (**11**, 118).
and doubling machine. **Dodd.** 26 Jl. 1864. I, **1**, 371 (**5**, 308), pl. 65.
— **Dodd.** 21 D. 1865. I, **2**, 339 (**6**, 323), pl. 106.
and roping machine, hemp. **Botter.** 10 O. 1867. I, **4**, 328 (**7**, 468), pl. 114.
and twisting. **Krutly.** 16 Ja. 1873. II, **4**, 19 (**12**, 499), pl. 2.
broom. **Vergottini.** 30 D. 1857. (**1**, 487.)* (*Sardinia.*)
cleaner. **Delamare-Delbutteville fils aîné.** 4 My. 1876. II, **7**, 231 (**17**, 183).
doubling and twisting machine. **Sauval.** 31 D. 1862. (**3**, 378.)*
— **Sipman.** 6 D. 1879. II, **10**, 811 (**23**, 11), pl. 229.
dyed cotton. **Castelli.** 30 Je. 1858. (**2**, 74.)* (*Sardinia.*)
guide. **Remersaro.** 27 S. 1872. II, **3**, 446 (**12**, 346), pl. 106.
machine. **Baker.** 31 Mr. 1863. (**3**, 454.)*
— **Brandon.** 30 Jl. 1870. II, **1**, 320 (**10**, 320), pl. 81.
— **Calcia.** 12 N. 1879. II, **10**, 738 (**22**, 438), pl. 203. Ad. **11**, 455 (**24**, 56), pl. 133.
— **Dreyscharff.** 15 O. 1873. II, **4**, 511 (**13**, 491), pls. 146, 147.
— **Durand et Pradel.** 31 D. 1858. (**2**, 190.)* (*Sardinia.*)
— **Durand, Pradel et Bronac.** 30 Je. 1861. (**3**, 30)*—Ex. I, **1**, 216 (**5**, 152).
— **Fostier.** 24 S. 1864. I, **1**, 438 (**5**, 375), pls. 47, 48.
— **Girodon.** 19 N. 1873. II, **4**, 557 (**14**, 37), pl. 153.
— **Good.** 17 S. 1875. II, **6**, 479 (**16**, 247), pls. 113, 114—Ex. **9**, 564 (**20**, 419).
— **Harmel.** 30 S. 1861. (**3**, 113.)*
— **Hibry.** 6 Ap. 1875. II, **6**, 163 (**15**, 431), pl. 34.

SPINNING machine—continued.
— **Leigh.** 31 D. 1858. (**2**, 201.)* (*Sardinia.*)
— **Loeffel.** 15 Je. 1880. II, 11, 388 (**23**, 489), pl. 108.
— **Maigron.** 31 D. 1862. (**3**, 422)*—Ex. I, **1**, 288 (**5**, 224).
— **Martin.** 26 Mr. 1872. II, **3**, 114 (**12**, 14), pl. 35.
— **Martin.** 18 D. 1872. II, **3**, 551 (**12**, 451), pl. 133—Ex. **9**, 668 (**21**, 23).
— **Martin.** 12 F. 1873. II, **4**, 67 (**13**, 47), pl. 18—Ex. **11**, 17 (**23**, 118).
— **Obertino.** 30 S. 1857. (**1**, 419.)* (*Sardinia.*)
— **Poppe.** 30 Ja. 1880. II, **11**, 38 (**23**, 139), pl. 13.
— **Ruiz e Le Pelletier.** 11 My. 1872. II, **3**, 197 (**12**, 97), pl. 55.
— **Ruiz e Le Pelletier.** 11 My. 1872. II, **3**, 198 (**12**, 98), pl. 53.
— **Schoch e Keller.** 16 D. 1878. II, **9**, 776 (**21**, 131), pl. 236.
— **Serrell.** 29 Mr. 1882. II, **13**, 251 (**28**, 23), pl. 69.
— **Stehelin et Cie.** 30 S. 1856. (**1**, 272.)* (*Sardinia.*)
— **Strange e Kenneth.** 24 D. 1874. II, **5**, 618 (**15**, 227), pl. 148.
— **Ward.** 23 Ja. 1875. II, **6**, 32 (**15**, 300), pl. 8.
— **Wintgens.** 12 O. 1881. II, **12**, 918 (**26**, 468), pl. 246.
— carded wool. **Appenzeller.** 24 F. 1880. II, **11**, 90 (**23**, 191), pl. 34. Ad. **12**, 5 (**25**, 55), pl. 1.
— cleaner. **Isler.** 31 Mr. 1863. (**3**, 457.)*
— hand. **Ciampaglia e Raspaolo.** 25 Mr. 1878. II, **9**, 145 (**19**, 500), pl. 35.
— hemp. **Colombari.** 30 Je. 1858. (**2**, 82.)* (*Sardinia.*)
— lubricating. **Roberts.** 31 D. 1863. (**4**, 169)*—Ex. I, **1**, 379 (**5**, 316).
— register. **Hanhart.** 25 O. 1876. II, **7**, 510 (**17**, 463), pl. 129.
— weft or organzine. **di Bargnano.** 30 Je. 1855. (**1**, 61.)* (*Sardinia.*)
— wool. **Spineux.** 31 O. 1867. I, **4**, 356 (**7**, 497), pl. 112.
mule, self-acting. **Flecheux.** 17 Ja. 1866. I, **3**, 7 (**6**, 333), pl. 4.
preparing fibers for. **Imbs.** 15 S. 1879. II, **10**, 600 (**22**, 300), pl. 167. Ad. **11**, 2 (**23**, 103), pl. 1.
spartium junceum (Spanish broom). **Traverso.** 31 D. 1856. (**1**, 345.)* (*Sardinia.*)
spindle. **Daina.** 9 Ja. 1871. II, **2**, 1 (**10**, 423), pl. 1—Ex. **5**, 23 (**14**, 132).
— **Ferrario.** 28 O. 1875. II, **6**, 573 (**16**, 341), pl. 138.
— **Gerosa.** 30 S. 1860. (**2**, 416.)* (*Sardinia.*)
— **Mainardi.** 30 Mr. 1859. (**2**, 230.) Ad. (**1**, 62.)* (*Sardinia.*)
— **Saxer.** 30 S. 1863. (**4**, 66.)*
— covering. **Passieux.** 21 Ap. 1875. II, **6**, 192 (**15**, 460), pl. 37.
thread breaker. **Dauphinot e Desquilbert.** 11 My. 1878. II, **9**, 279 (**20**, 134), pl. 74. Ad. **11**, 243 (**23**, 344), pl. 72.
twister. **Murray.** 16 Mr. 1882. II, **13**, 199 (**27**, 471), pl. 55.
— **Rocheblave.** 19 Ap. 1873. II, **4**, 186 (**13**, 166), pl. 49.
twisting and winding machine. **Bourcart.** 26 Jl. 1879. II, **10**, 498 (**22**, 198), pls. 140–143. Ad. **11**, 176 (**23**, 277), pl. 53.
twisting machine. **Parissot et Gorju.** 30 S. 1855. (**1**, 91.)* (*Sardinia.*)
— **Pradel.** 30 S. 1855. (**1**, 74.)* (*Sardinia.*)
— **Schmid.** 27 Ag. 1880. II, **11**, 590 (**24**, 191), pl. 158. Ad. **12**, 629 (**26**, 179), pl. 153.
twisting reel. **Daina.** 5 Mr. 1880. II, **11**, 125 (**23**, 226), pl. 43.
twisting-tube fer. **Aubenas.** 16 Je. 1865. I, **2**, 169 (**6**, 153), pls. 47, 48.
— **Martin.** 26 Ag. 1875. II, **6**, 461 (**16**, 229), pl. 106.
twisting, winding, and doubling. **Dickins.** 31 D. 1860. (**2**, 445.)* (*Sardinia.*)
twisting winding machine. **Aubenas.** 31 D. 1856. (**1**, 303.)* (*Sardinia.*)
winder. **Bernasconi, Mauri e Volonterio.** 22 O. 1872. II, **3**, 473 (**12**, 373), pl. 113.
wool. **de Labarre.** 9 Mr. 1872. II, **3**, 67 (**11**, 467).
— substitute for oil in. **Oldrini.** 29 Ag. 1866. I, **3**, 202 (**7**, 28).

SPIRAL spring machine. **Fercher.** 16 My. 1878. II, **9**, 304 (**20**, 159), pl. 83.
spring manufacture. **Cremer.** 27 Ag. 1880. II, **11**, 584 (**24**, 185), pls. 167, 168—Ex. **12**, 799 (**26**, 349).
— **Metcalf.** 20 Ag. 1869. I, **6**, 325 (**9**, 341), pl. 110.
SPLINT. **Ahl.** 10 O. 1877. II, **8**, 574 (**19**, 164), pl. 143.
Sansalone e Savorani. 27 S. 1879. II, **10**, 644 (**22**, 344), pl. 177.
Skipton. 30 Je. 1861. (**3**, 28.)*
SPONGE, preparing for stuffing, packing, etc. **Beretta.** 6 N. 1867. I, **4**, 365 (**8**, 6).
work. **Peters.** 31 O. 1871. II, **2**, 388 (**11**, 310).
SPOOL. *See also* Sewing-machine.
needle case. **Calandra.** 31 D. 1878. II, **9**, 829 (**21**, 184), pl. 243.
SPOOLING-MACHINE. **West.** 17 Ap. 1875. II, **6**, 179 (**15**, 447), pl. 35.
SPOON manufacture. **Gurlino e Chapoutot.** 26 Mr. 1872. II, **3**, 118 (**12**, 18), pl. 32.
— iron. **Lancina.** 21 D. 1868. I, **5**, 427 (**8**, 498), pl. 130—Ex. II, **2**, 180 (**11**, 102).
— machine. **Fleetwood.** 15 Mr. 1866. I, **3**, 76 (**6**, 402), pl. 25—Ex. **4**, 98 (**7**, 238).
SPREADING-MACHINE. **Rey.** 31 Mr. 1862. (**3**, 234.)*
SPRING. *See also* Bed, Car, Carriage, Hat, Hoopskirt, Mattress, Metallic spiral, Spiral, Steel, Wagon.
artificial. **Le Chapelain.** 15 D. 1877. II, **8**, 723 (**19**, 313), pl. 192.
manufacture. **Perratone.** 31 D. 1858. (**2**, 165.)* (*Sardinia.*)
motor. **Gunzburger.** 31 Ja. 1876. II, **7**, 46 (**16**, 498), pl. 11.
— **Moldenhauer e Screiber.** 6 S. 1880. II, **11**, 612 (**24**, 213), pl. 175.
— for cars and boats. **Chenille.** 10 O. 1867. I, **4**, 340 (**7**, 481), pl. 104.
plate. **John.** 19 Ja. 1873. II, **4**, 28 (**13**, 8), pl. 2.
seat. **Ghibellini.** 25 Ag. 1869. I, **6**, 326 (**9**, 342), pl. 110.
SPRINKLER. *See also* Street.
Olivieri. 19 Ag. 1871. II, **2**, 271 (**11**, 193), pl. 58.
STAMP. **Brassart.** 21 S. 1876. II, **7**, 456 (**17**, 408), pl. 111.
Buratti. 30 D. 1860. (**2**, 463.)* (*Sardinia.*)
adjusting. **Marietti.** 26 Je. 1877. II, **8**, 363 (**18**, 453), pl. 97.
cancelling machine. **Leavitt.** 20 N. 1879. II, **10**, 775 (**22**, 475), pls. 213–215—Ex. **11**, 935 (**25**, 36); **12**, 1086 (**27**, 136).
— **Löffelhardt.** 12 O. 1880. II, **11**, 702 (**24**, 303), pl. 205. Ad. **12**, 1040 (**27**, 90), pl. 285.
elastic. **Clavenna.** 26 Ag. 1875. II, **6**, 443 (**16**, 211), pl. 103.
— **Liebe.** 18 Ap. 1876. II, **7**, 192 (**17**, 144), pl. 44.
hammer. **Greuter.** 13 D. 1869. I, **6**, 464 (**9**, 480), pl. 149.
hand. **Bernardi.** 31 O. 1873. II, **4**, 532 (**14**, 12), pl. 148. Ad. **5**, 109 (**14**, 218).
— **Bouquet.** 31 Mr. 1863. (**3**, 449)*—Ex. I, **3**, 17 (**6**, 343).
— **de Buigne.** 28 Je. 1879. II, **10**, 411 (**22**, 111), pl. 117.
— **Gisler.** 30 Je. 1862. (**3**, 281.)*
— **Manescalco.** 19 Je. 1878. II, **9**, 384 (**20**, 239), pl. 110.
— **Milano.** 14 D. 1881. II, **12**, 1113 (**27**, 163), pl. 302.
— **Puricelli.** 12 Je. 1869. I, **6**, 238 (**9**, 254), pl. 77.
— **Salmoiraghi.** 18 Mr. 1879. II, **10**, 121 (**21**, 321), pl. 36.
— **Schmidt.** 11 Mr. 1880. II, **11**, 138 (**23**, 239), pl. 49.
— **Turi ed al.** 20 Ag. 1864. I, **1**, 417 (**5**, 354), pl. 43.
— **Turi.** 2 F. 1865. I, **2**, 34 (**6**, 18), pl. 4.
india-rubber. **Zini.** 11 Ja. 1876. II, **7**, 4 (**16**, 456), pl. 2.
moistener, postage. **Mollard.** 28 My. 1868. I, **5**, 146 (**8**, 216), pl. 38.
multiplying hand. **Pigozzi.** 4 D. 1866. I, **3**, 283 (**7**, 109), pl. 80.
postage, registering. **Angiolini.** 8 N. 1869. I, **6**, 405 (**9**, 421), pl. 132.
printing. **Trouillet.** 28 My. 1868. I, **5**, 145 (**8**, 215), pls. 32, 33.
register, ticket. **Rimoldi.** 10 Ag. 1871. II, **2**, 258 (**11**, 180), pl. 56.
ticket. **Boari.** 31 Mr. 1879. II, **10**, 186 (**21**, 386), pl. 57—Ex. **12**, 299 (**25**, 349). Ad. **12**, 1058 (**27**, 108), pl. 290.

STAMPING machine. **Heinlein.** 21 S. 1876. II, **7**, 459 (**17**, 411), pl. 114.
— **Huguet.** 31 Mr. 1861. (**2**, 498.)*
press. **Gallico.** 25 O. 1876. II, **7**, 507 (**17**, 460), pl. 129.
STARCH, converting into sugar. **Wassmus.** 10 Ag. 1871. II, **2**, 252 (**11**, 174), pl. 60.
distilling and fermenting. **Leconte.** 8 Ap. 1872. II, **3**, 127 (**12**, 27).
manufacture. **Fesca e Chiozza.** 25 Ag. 1877. II, **8**, 506 (**19**, 96), pl. 128 - Ex. **9**, 492 (**20**, 347).
— **Grande.** 30 S. 1874. II, **5**, 460 (**15**, 69).
— **Leconte.** 7 O. 1872. II, **3**, 460 (**12**, 360). Ad. **4**, 33 (**13**, 13).
— **Malvezzi.** 22 Jl. 1876. II, **7**, 357 (**17**, 303).
— **Matthews.** 30 Je. 1862. (**3**, 296.)*
— **Monticelli.** 31 Mr. 1857. (**1**, 373.) Ad. (**1**, 44).* (*Sardinia.*)
— **Paul fils aîné.** 26 Jl. 1879. II, **10**, 496 (**22**, 196), pl. 139.
— **Sileoni.** 31 Mr. 1857. (**1**, 311.)* (*Sardinia.*)
— apparatus. **Malvezzi.** 22 Jl. 1876. II, **7**, 351 (**17**, 302).
— from Arum maculatum. **Giani.** 16 Ap. 1860.* (*Austria.*)
— from chestnuts. **Gauthier.** 31 Mr. 1858. (**2**, 55.)* (*Sardinia.*)
— from corn. **Chiozza.** 9 F. 1874. II, **5**, 43 (**14**, 152), pl. 7.
— from Jalopa mirabilis. **Moreno.** 30 O. 1874. II, **5**, 527 (**15**, 136).
— from Pancratium maritimum. **Giordano.** 21 D. 1861. (**3**, 143)*—Ex. I, **1**, 427 (**5**, 364); **1**, 468 (**5**, 405).
separating. **Camus.** 30 Ap. 1880. II, **11**, 275 (**23**, 376), pl. 77. Ad. **11**, 861 (**24**, 462).
STAPLE with plate. **Trippa.** 23 Ag. 1865. I, **2**, 220 (**6**, 204), pl. 58. Ad. **3**, 89 (**6**, 415), pl. 29.
STATISTICAL table. **Verona.** 31 Mr. 1882. II, **13**, 293 (**28**, 65).
STEAM, air, and gas engine. **Hureau.** 21 Mr. 1870. II, **1**, 98 (**10**, 98), pl. 19.
and hot-air engine. **Gill.** 21 Jl. 1864. I, **1**, 360 (**5**, 297), pl. 73.
boiler. **Armier.** 31 D. 1861. (**3**, 182.)*
— **Barret e Lagrafel.** 12 Ap. 1873. II, **4**, 161 (**13**, 141), pl. 46.
— **Bateson.** 30 S. 1859. (**2**, 274.)* (*Sardinia.*)
— **Belleville.** 30 S. 1856. (**1**, 254.)* (*Sardinia.*)
— **Belleville.** 31 Mr. 1860. (**2**, 345.)* (*Sardinia*)—Ex. I, **1**, 228 (**5**, 164).
— **Belleville.** 8 F. 1866. I, **3**, 31 (**6**, 357), pls. 9–12.
— **Belleville.** 30 N. 1872. II, **3**, 525 (**12**, 425), pl. 128.
— **Belleville.** 30 N. 1876. II, **7**, 570 (**18**, 23), pl. 148.
— **Bergmann.** 10 N. 1873. II, **4**, 548 (**14**, 28), pl. 151.
— **Bergreen.** 8 Je. 1875. II, **6**, 295 (**16**, 63), pl. 66. Ad. **6**, 503 (**16**, 275), pl. 120.
— **Betti.** 27 Mr. 1866. I, **3**, 81 (**6**, 407), pl. 23—Ex. **5**, 392 (**8**, 463).
— **Betti.** 26 My. 1869. I, **6**, 218 (**9**, 234), pl. 61—Ex. II, **3**, 296 (**12**, 196).
— **Bonnier de la Chapelle e Paganini.** 16 My. 1867. I, **4**, 168 (**7**, 308), pl. 51.
— **Borreiko de Chodzko.** 12 F. 1873. II, **4**, 70 (**13**, 50), pl. 19.
— **Brunotti.** 29 N. 1875. II, **6**, 605 (**16**, 373), pl. 148.
— **Cail e Compagnia.** 28 Mr. 1870. II, **1**, 131 (**10**, 131), pl. 33—Ex. **2**, 227 (**11**, 149); **7**, 129 (**17**, 81).
— **Cetti e Fumagalli.** 25 My. 1870. II, **1**, 217 (**10**, 217), pl. 50.
— **Clayton e Shuttleworth.** 22 Jl. 1876. II, **7**, 354 (**17**, 306), pl. 88—Ex. **10**, 419 (**22**, 119).
— **Collet et Comp.** 6 D. 1881. II, **12**, 1079 (**27**, 29), pl. 295.
— **Délavaqué.** 28 F. 1878. II, **9**, 102 (**19**, 457), pl. 30.
— **Deloye e Guebhard.** 31 Mr. 1882. II, **13**, 285 (**28**, 57), pl. 72.
— **Denio e Lobdell.** 23 Je. 1874. II, **5**, 295 (**14**, 404), pl. 70.
— **Dufour.** 4 S. 1875. II, **6**. 468 (**16**, 236), pl. 108.
— **Durand.** 30 Je. 1858. (**2**, 133.)* (*Sardinia.*)
— **Du Temple.** 27 Je. 1876. II, **7**, 315 (**17**, 267), pl. 74—Ex. **8**, 384 (**18**, 474).

STEAM boiler—continued.
— **Du Temple.** 19 Je. 1880. II, **11**, 396 (**23**, 497), pl. 115.
— **Fabas.** 22 My. 1874. II, **5**, 244 (**14**, 353), pl. 55.
— **Forlanini.** 28 S. 1881. II, **12**, 877 (**26**, 427), pl. 233.
— **Fortunati.** 16 Ag. 1879. II, **10**, 553 (**22**, 253), pl. 157.
— **Garret.** 30 Jl. 1881. II, **12**, 696 (**26**, 246), pls. 177, 178.
— **Gebauer.** 14 Jl. 1877. II, **8**, 396 (**18**, 486), pl. 104.
— **Gillitzer.** 9 Ag. 1879. II, **10**, 531 (**22**, 231), pl. 152.
— **Guzzi.** 30 Ja. 1875. II, **6**, 39 (**15**, 307), pl. 9.
— **Harrisen.** 31 D. 1861. (**3**, 184.)*
— **Hediard.** 30 S. 1862. (**3**, 338.)*
— **Henrion.** 9 S. 1869. I, **6**, 343 (**9**, 359), pl. 119. Ad. **6**, 448 (**9**, 464).
— **Holt.** 25 O. 1866. I, **3**, 240 (**7**, 66), pls. 71, 72.
— **Kaselowsky.** 28 Mr. 1875. II, **6**, 127 (**15**, 395), pl. 27.
— **Lewis.** 30 S. 1867. I, **4**, 315 (**7**, 455), pl. 97.
— **Lupi.** 31 Jl. 1877. II, **8**, 448 (**19**, 38), pl. 115.
— **MacConnel.** 30 Je. 1859. (**2**, 238.)* (*Sardinia.*)
— **MacNicol.** 16 Jl. 1881. II, **12**, 651 (**26**, 201), pls. 165–167.
— **Martin.** 16 Je. 1865. I, **2**, 164 (**6**, 148), pl. 45.
— **May.** 7 Jl. 1876. II, **7**, 329 (**17**, 281), pl. 78—Ex. **10**, 418 (**22**, 118).
— **Mercier.** 26 Ag. 1875. II, **6**, 445 (**16**, 213), pl. 104.
— **Migeon.** 10 Jl. 1875. II, **6**, 355 (**16**, 123), pl. 78.
— **Mondini.** 23 My. 1866. I, **3**, 142 (**6**, 468), pl. 44.
— **Moy.** 17 Ja. 1878. II, **8**, 19 (**19**, 374), pl. 6.
— **Musciacco.** 2 S. 1868. I, **5**, 321 (**8**, 391), pl. 93. Ad. **5**, 445 (**9**, 16), pl. 131.
— **de Noeyer et Cie.** 27 F. 1882. II, **13**, 136 (**27**, 408), pls. 41, 42.
— **Nowikoff.** 23 N. 1881. II, **12**, 1030 (**27**, 80), pl. 274.
— **Orlando fratelli.** 31 Mr. 1861. (**3**, 20.)*
— **Paxman e Davey.** 7 Jl. 1874. II, **5**, 336 (**14**, 445), pl. 77.
— **Panet.** 30 Je. 1863. (**4**, 64)*—Ex. I, **1**, 499 (**5**, 386).
— **Petitpierre.** 8 Je. 1867. I, **4**, 177 (**7**, 317), pl. 49—Ex. II, **1**, 264 (**10**, 264).
— **Pinkus.** 2 D. 1868. I, **5**, 398 (**8**, 469), pls. 122–127—Ex. **6**, 439 (**9**, 455).
— **Ratti.** 13 S. 1869. I, **6**, 350 (**9**, 366), pl. 110.
— **de Rorthays ed Onfroy de Verez.** 28 Ag. 1873. II, **4**, 421 (**13**, 401), pl. 113.
— **Rossi.** 25 Ap. 1878. II, **9**, 237 (**20**, 92), pl. 59.
— **Schwartzkopff.** 10 N. 1879. II, **10**, 726 (**22**, 426), pl. 200.
— **Schulte.** 31 Mr. 1882. II, **13**, 290 (**28**, 62), pl. 77.
— **Schultz e Meyer.** 3 Ag. 1881. II, **12**, 721 (**26**, 271), pl. 187.
— **Société nouvelle des forges et chantiers de la Méditerranée.** 15 D. 1871. II, **2**, 452 (**11**, 324), pl. 95. Ad. **4**, 400 (**13**, 380), pl. 104.
— **Sulzer frères.** 27 Je. 1877. II, **8**, 364 (**18**, 454), pl. 98.
— **Ten Brink.** 25 O. 1876. II, **7**, 508 (**17**, 461), pl. 127.
— **Walter e Weidknecht.** 27 My. 1874. II, **5**, 251 (**14**, 360), pl. 56.
— **Wavish.** 20 Ap. 1880. II, **11**, 226 (**23**, 327), pl. 64.
— **Westermann.** 22 Mr. 1871. II, **2**, 72 (**10**, 494), pl. 12.
— **Westermann.** 11 D. 1871. II, **2**, 442 (**11**, 364), pl. 92.
— **Wood.** 17 S. 1875. II, **6**, 495 (**16**, 263), pl. 122.
— **de Wrady e Okouneff.** 30 O. 1880. II, **11**, 765 (**24**, 366), pl. 221.
— and condenser. **Capuccio.** 30 Je. 1859. (**2**, 236.)* (*Sardinia.*)
— and injector pipe. **Friedmann.** 10 Ag. 1868. I, **5**, 274 (**8**, 344), pl. 83—Ex. **6**, 478 (**9**, 494); II, **2**, 133 (**11**, 55); **5**, 300 (**14**, 409).
— corrosion preventing. **Weir e Weir.** 4 Je. 1881. II, **12**, 498 (**26**, 48), pl. 123.
— explosion preventing. **Cornevin.** 20 Je. 1875. II, **6**, 332 (**16**, 100), pl. 71.
— — **Déchamp.** 14 Ag. 1874. II, **5**, 408 (**15**, 17), pl. 95.
— feed pump. **Volpp, Schwarz e Comp.** 21 D. 1881. II, **12**, 1125 (**27**, 175), pl. 315.
— feed regulator. **Churchill.** 6 S. 1880. II, **11**, 618 (**24**, 219), pls. 177, 178. Ad. **12**, 661 (**26**, 211), pl. 170—Ex. **12**, 770 (**26**, 320).

STEAM boiler feed regulator—continued.
— — **Hervier.** 29 Ag. 1866. I, **3**, 200 (**7**, 26), pl. 60.
— feed water purifier. **Bouvret.** 27 Ag. 1879. II, **10**, 568 (**22**, 268), pl. 160.
— feeder. **Chiazzari de Torres.** 31 D. 1875. II, **6**, 677 (**16**, 445), pl. 172—Ex. **9**, 17 (**19**, 372).
— — **Davies.** 30 Je. 1880. II, **11**, 435 (**24**, 36), pl. 128—Ex. **13**, 261 (**28**, 33).
— — **Fromentin.** 23 Je. 1879. II, **10**, 393 (**22**, 93), pl. 116.
— — **Girard.** 17 Je. 1870. II, **1**, 246 (**10**, 246), pls. 61, 62.
— — **Hamer, Metcalfe et Davies.** 20 Ap. 1878. II, **9**, 206 (**20**, 61). pl. 57—Ex. **11**, 207 (**23**, 308).
— **Jagn.** 8 Ag. 1874. II, **5**, 385 (**14**, 494), pl. 89. Ad. **6**, 242 (**16**, 10), pl. 49; **8**, 44 (**18**, 134), pl. 12—Ex. **11**, 708 (**24**, 309).
— — **Langensiepen.** 20 Ap. 1880. II, **11**, 221 (**23**, 322), pl. 64—Ex. **12**, 221 (**25**, 271).
— — **Macabies.** 31 Ag. 1868. I, **5** 305 (**8**, 375), pl. 85.
— — **Macabies.** 30 Ap. 1870. II, **1**, 180 (**10**, 180), pl. 44.
— — **Martin.** 16 Je. 1865. I, **2**, 165 (**6**, 149), pl. 44.
— — **Massarotti.** 29 D. 1874. II, **5**, 641 (**15**, 250), pl. 152.
— — **Massarotti.** 6 Ag. 1878. II, **9**, 488 (**20**, 343), pl. 151.
— — **Salisbury.** 31 Ag. 1881. II, **12**, 806 (**26**, 356), pls. 213, 214.
— — **Saltet.** 11 F. 1875. II, **6**, 55 (**15**, 323), pl. 14. Ad. **6**, 62 (**15**, 330), pl. 13.
— — **Société anonyme de l'alimentateur à niveau constant Macabies.** 29 D. 1874. II, **5**, 650 (**15**, 259), pl. 156. Ad. **6**, 79 (**15**, 347), pl. 17.
— — **Stratton.** 30 Mr. 1875. II, **6**, 135 (**15**, 403), pl. 26.
— — **Weir e Weir.** 16 N. 1878. II, **9**, 692 (**21**, 47), pl. 208.
— — float. **Clevet.** 30 S. 1862. (**3**, 347.)*
— furnace. **Allemano e Stemmer.** 9 Mr. 1876. II, **7**, 99 (**17**, 51), pl. 25.
— — **Ball-Ball.** 31 D. 1880. II, **11**, 942 (**25**, 43), pl. 264—Ex. **12**, 1188 (**27**, 238).
— — **Bernard, Boyé et Cie.** 30 Je. 1880. II, **11**, 436 (**24**, 37), pl. 129.
— — **Bordone.** 7 F. 1876. II, **7**, 62 (**17**, 14), pl. 16.
— — **Brock.** 26 Je. 1880. II, **11**, 422 (**24**, 23), pl. 124.
— — **Casement.** 26 F. 1874. II, **5**, 68 (**14**, 177), pl. 12.
— — **Coiner.** 13 N. 1880. II, **11**, 803 (**24**, 404), pl. 231. Ad. **12**, 206 (**25**, 256), pl. 46.
— — **Cortese.** 30 S. 1861. (**3**, 96)*—Ex. I, **1**, 286 (**5**, 222).
— — **Engert.** 26 Ja. 1881. II, **12**, 12 (**25**, 62), pl. 2.
— — **Falsetti.** 25 Je. 1866. I, **3**, 151 (**6**, 477), pl. 41.
— — **de Ferrari.** 24 N. 1876. II, **7**, 557 (**18**, 10), pl. 141. Ad. **7**, 566 (**18**, 19).
— — **Fletcher.** 30 Mr. 1878. II, **9**, 178 (**20**, 33), pl. 45—Ex. **12**, 193 (**25**, 243).
— — **Fontenay.** 30 S. 1862. (**3**, 351.)*
— — **Friedmann.** 12 Mr. 1874. II, **5**, 96 (**14**, 205), pl. 20.
— — **Friedmann et Erlanger.** 31 D. 1861. (**3**, 168.)*
— — **Gallan.** 30 S. 1860. (**2**, 397.)*
— — **Gardner.** 7 Jl. 1873. II, **4**, 327 (**13**, 307), pl. 86.
— — **Godillot.** 18 O. 1878. II, **9**, 644 (**20**, 499), pl. 199.
— — **Göhring.** 24 O. 1879. II, **10**, 703 (**22**, 403), pl. 189.
— — **Guzzi.** 29 Je. 1874. II, **5**, 313 (**14**, 422), pl. 74. Ad. **6**, 456 (**16**, 224), pl. 104; **6**, 618 (**16**, 386), pl. 147—Ex. **11**, 466 (**24**, 67).
— — **Haupt.** 23 Ap. 1880. II, **11**, 254 (**23**, 355), pl. 76.
— — **Hornsby.** 8 Je. 1875. II, **6**, 302 (**16**, 70), pl. 67.
— — **Krupp.** 30 S. 1875. II, **6**, 525 (**16**, 293), pl. 129.
— — **de Malortie e Woods.** 20 Je. 1873. II, **4**, 290 (**13**, 270), pl. 75.
— — **McDougall.** 25 Jl. 1877. II, **8**, 426 (**19**, 16), pl. 112—Ex. 9, 459 (**20**, 314).
— — **Norflard.** 30 Mr. 1877. II, **8**, 170 (**18**, 260), pl. 45.
— — **Prideaux.** 30 S. 1873. II, **4**, 476 (**13**, 456), pl. 128.
— — **Raumberger.** 14 Je. 1872. II, **3**, 244 (**12**, 144), pl. 65.
— — **Séguin.** 11 My. 1877. II, **8**, 269 (**18**, 359), pl. 76. Ad. **9**, 656 (**21**, 11), pl. 204.
— — **Serrière.** 22 D. 1875. II, **6**, 660 (**16**, 428), pl. 165.

STEAM boiler furnace—continued.
— — **Société générale de métallurgie pour les procédés Ponsard.** 14 Je. 1873. II, **4**, 277 (**13**, 257), pl. 73.
— — **Starkey.** 11 Je. 1879. II, **10**, 360 (**22**, 60), pl. 97.
— — **Venini.** 18 Mr. 1879. II, **10**, 118 (**21**, 318), pl. 37.
— — **Williams.** 28 F. 1878. II, **9**, 101 (**19**, 456), pl. 29.
— — aspirator. **Ballari.** 15 Mr. 1881. II, **12**, 184 (**25**, 234), pl. 45.
— — blast. **Gigodot.** 12 Ap. 1873. II, **4**, 173 (**13**, 153), pl. 47.
— — feeder. **Vernon.** 15 S. 1873. II, **4**, 448 (**13**, 428), pl. 123.
— — feeding. **Vernon.** 28 Ag. 1873. II, **4**, 424 (**13**, 404), pl. 110.
— — gas. **Arimondi.** 31 Ja. 1874. II, **5**, 40 (**14**, 149), pl. 6. Ad. **5**, 112 (**14**, 221).
— — smoke consumer. **Bonnet.** 30 S. 1862. (**3**, 364.)*
— — smoke consuming. **Friedmann e d'Erlanger.** 31 D. 1862. (**3**, 423.)*
— — — **Orvis.** 9 N. 1881. II, **12**, 994 (**27**, 44), pl. 268.
— — — **Peters.** 17 F. 1882. II, **13**, 107 (**27**, 379), pl. 32.
— guard plate. **Van Hecke.** 3 F. 1869. I, **6**, 38 (**9**, 54), pl. 7.
— heater. **Rescalli.** 31 Mr. 1857. (**1**, 340.)* (*Sardinia.*)
— heating. **Bougleux.** 31 D. 1856. (**1**, 371.)* (*Sardinia.*)
— — by lost heat of kilns. **Robine.** 24 Ap. 1870. II, **1**, 166 (**10**, 166, pl. 38.
— high pressure. **Manley.** 31 Mr. 1862. (**3**, 225.)*
— incrustation, preventing. **Baker.** 22 My. 1866. I, **3**, 128 (**6**, 454), pl. 33. Ad. **3**, 226 (**7**, 52), pl. 65.
— — **Bernhard.** 19 D. 1876. II, **7**, 602 (**18**, 55).
— — **Harrison.** 31 D. 1861. (**3**, 187.)*
— — **Heimann.** 31 Mr. 1880. II, **11**, 193 (**23**, 294)—Ex. **12**, 300 (**25**, 350).
— — **Vigier.** 15 D. 1871. II, 455 (**11**, 377).
— — compound. **Bernhard.** 20 Ap. 1874. II, **5**, 179 (**14**, 288).
— — — **Kolker.** 26 N. 1881. II, **12**, 1037 (**27**, 87).
— — — **Simian.** 31 Mr. 1860. (**2**, 334.)* (*Sardinia.*)
— — — introducing apparatus. **Simian.** 31 D. 1858. (**2**, 182.)* (*Sardinia.*)
— — — — **Simian.** 31 Mr. 1860. (**2**, 335.)* (*Sardinia.*)
— incrustation removing. **Deluy.** 29 D. 1874. II, **5**, 633 (**15**, 242).
— — **de Martino.** 15 D. 1874. II, **5**, 607 (**15**, 216).
— — compound. **Alfieri.** 6 Ag. 1880. II, **11**, 541 (**24**, 142).
— — — **Aube.** 23 Ag. 1878. II, **9**, 521 (**20**, 376).
— — — **Brinqueler.** 30 S. 1867. I, **4**, 317 (**7**, 457)—Ex. **6**, 375 (**9**, 391).
— — — **Chiostergi e Micheli.** 16 O. 1878. II, **9**, 615 (**20**, 470).
— — — **Della Valle e Comp.** 21 D. 1881. II, **12**, 1131 (**27**, 181).
— — — **Lecacheux, Sarthe et Cie.** 31 Mr. 1862. (**3**, 208.) Ad. (**1**, 108).*
— — — **Schettino.** 27 F. 1877. II, **8**, 72 (**18**, 162).
— — — **Vidal et Cie.** 16 My. 1878. II, **9**, 302 (**20**, 107), pl. 83.
— — — introducing apparatus. **Simian.** 41 D. 1858. (**2**, 181.)* (*Sardinia.*)
— instantaneous. **Serpollet frères et Cie.** 31 Mr. 1880. II, **11**, 199 (**23**, 300), pl. 60.
— marine. **Astigiano.** 30 My. 1874. II, **5**, 261 (**14**, 370), pl. 58.
— plug. **Cravero.** 31 My. 1881. II, **12**, 479 (**26**, 29), pl. 119.
— portable. **Janssen.** 31 D. 1879. II, **10**, 878 (**23**, 78), pl. 249.
— register. **Poindron.** 24 D. 1879. II, **10**, 849 (**23**, 49), pl. 241.
— rotary. **Grimaldi.** 31 Mr. 1862. (**3**, 203.)*
— smoke consumer. **Boschan.** 19 My. 1873. II, **4**, 233 (**13**, 213), pl. 62.
— spheroidal. **Testud de Beauregard.** 30 S. 1859. (**2**, 271.)* (*Sardinia.*)
— tube cleaning. **Von Essen.** 3 Je. 1875. II, **6**, 278 (**16**, 46), pl. 62.
— — apparatus, outside. **Joublin.** 22 Ja. 1867. I, **4**, 26 (**7**, 165), pl. 7.

STEAM boiler—continued.
— tube joint. **Harrison.** 31 D. 1861. (**3**, 183.)*
— tube, movable. **Langlois.** 6 My. 1867. I, **4**, 139 (**7**, 279), pl. 44.
— tube setting. **Tully.** 20 Ag. 1880. II, **11**, 572 (**24**, 173), pl. 159.
— tubular. **Barré.** 30 Je. 1860. (**2**, 372.) Ad. (**1**, 100).* (*Sardinia.*)
— — **Frodsham.** 30 S. 1859. (**2**, 261.)* (*Sardinia.*)
— — horizontal. **de Morsier.** 12 F. 1869. I, **6**, 49 (**9**, 65), pl. 9.
— water gage. **Daniel.** 26 Ag. 1875. II, **6**, 439 (**16**, 207), pl. 101.
brake. **Guyet.** 30 S. 1856. (**1**, 244.) Ad. (**1**, 20); (**1**, 25).* (*Sardinia.*)
— **Hardy.** 19 Je. 1877. II, **8**, 348 (**18**, 438), pl. 95. Ad. **8**, 617 (**19**, 207), pl. 150; **9**, 28 (**19**, 383), pl. 7.
drum. **Musciacco.** 22 Ja. 1867. I, **4**, 38 (**7**, 177), pl. 11.
engine. **Armier.** 31 D. 1861. (**3**, 182.)*
— **Beissel.** 25 O. 1876. II, **7**, 509 (**17**, 462), pl. 130.
— **Bernard frères.** 19 My. 1881. II, **12**, 429 (**25**, 479), pl. 104.
— **Bolvin.** 2 Je. 1870. II, **1**, 229 (**10**, 229), pl. 57.
— **Brandon.** 4 Mr. 1870. II, **1**, 80 (**10**, 80), pl. 17.
— **Brotherhood.** 20 F. 1874. II, **5**, 59 (**14**, 168), pl. 13.
— **Cail e Comp.** 28 Mr. 1870. II, **1**, 131 (**10**, 131), pl. 33—Ex. **2**, 227 (**11**, 149); **7**, 129 (**17**, 81).
— **Cerimedo.** 11 Ja. 1875. II, **6**, 4 (**15**, 272), pl. 1.
— **Chalybaeus e de Giorgio.** 30 Je. 1870. II, **1**, 279 (**10**, 279), pl. 68.
— **Cleveland.** 11 Mr. 1865. I, **2**, 69 (**6**, 53), pl. 15.
— **Corbelli.** 28 Mr. 1881. II, **12**, 240 (**25**, 290).
— **Corsiglia e Zanoletti.** 31 Mr. 1856. (**1**, 146.)* (*Sardinia.*)
— **Cortese.** 31 D. 1872. II, **3**, 572 (**12**, 472), pls. 140, 141.
— **Dathichy.** 30 S. 1863. (**4**, 105.)*
— **Diesbach.** 20 F. 1874. II, **5**, 53 (**14**, 162).
— **Dolgorouky.** 28 O. 1878. II, **9**, 652 (**21**, **7**), pl. 204. Ad. **10**, 587 (**22**, 287), pl. 166.
— **Enrico.** 30 Ap. 1877. II, **8**, 236 (**18**, 326), pl. 64.
— **Field e Cotton.** 14 My. 1873. II, **4**, 224 (**13**, 204), pl. 58.
— **Fortunati.** 11 F. 1879. II, **10**, 67 (**21**, 267), pls. 19, 20.
— **Fortunati.** 25 Je. 1881. II, **12**, 573 (**26**, 123), pl. 142.
— **Gas Motoren-Fabrik-Deutz.** 12 O. 1881. II, **12**, 896 (**26**, 446), pl. 238.
— **Genoud.** 28 Mr. 1881. II, **12**, 238 (**25**, 288), pl. 56.
— **Girard.** 17 Je. 1870. II, **1**, 246 (**10**, 246), pls. 61, 62.
— **de Goesbriand.** 2 My. 1870. II, **1**, 187 (**10**, 187), pl. 47.
— **Guyet.** 31 Mr. 1864. (**4**, 200.)*
— **Hagelin.** 12 N. 1879. II, **10**, 745 (**22**, 445), pl. 202—Ex. **11**, 744 (**24**, 345).
— **Hoffmeister.** 19 Ap. 1882. II, **13**, 338 (**28**, 110), pl. 91.
— **Léonce de Combettes.** 30 S. 1856. (**1**, 251.)* (*Sardinia.*)
— **Lochmann.** 15 Mr. 1881. II, **12**, 192 (**25**, 242), pl. 46.
— **Mac-Connel.** 30 Je. 1859. (**2**, 238.)* (*Sardinia.*)
— **Magoon.** 25 Ap. 1874. II, **5**, 190 (**14**, 299), pl. 39.
— **Meriggioli.** 22 F. 1876. II, **7**, 74 (**17**, 26), pl. 19.
— **Metcalfe, Hamer e Metcalfe.** 30 Mr. 1876. II, **7**, 153 (**17**, 105), p. 34.
— **Moorhouse.** 30 S. 1876. II, **7**, 478 (**17**, 430), pl. 120.
— **de Morsier.** 6 Ag. 1878. II, **9**, 503 (**20**, 358), pl. 166—Ex. **12**, 870 (**26**, 420).
— **Moy.** 17 Ja. 1878. II, **8**, 19 (**19**, 374), pl. 6.
— **Mullray.** 8 Ag. 1854. 96.* (*Sardinia.*)
— **Orlando.** 26 F. 1874. II, **5**, 67 (**14**, 176), pl. 15.
— **Orlando fratelli.** 31 Mr. 1861. (**3**, 20.)*
— **Pasquale e Zanini.** 16 Jl. 1875. II, **6**, 376 (**16**, 144), pl. 83. Ad. **8**, 74 (**18**, 164), pl. 21.
— **Pauksch.** 30 N. 1877. II, **8**, 684 (**19**, 274), pl. 180.
— **Payton e Holmes.** 29 N. 1875. II, **6**, 619 (**16**, 387), pl. 152.
— **Penn.** 24 N. 1876. II, **7**, 558 (**18**, 11), pl. 145.
— **Pernot.** 9 Jl. 1879. II, **10**, 450 (**22**, 150), pl. 127.
— **Perret.** 30 Je. 1863. (**4**, 64)*—Ex. I, **1**, 449 (**5**, 386).
— **von Pittler.** 23 My. 1881. II, **12**, 437 (**25**, 487), pl. 107.
— **Romminger.** 4 N. 1865. I, **2**, 300 (**6**, 284), pl. 86.
— **Scribe.** 30 Mr. 1861. (**3**, 56.)*

STEAM engine—continued.
— **Siemens.** 30 S. 1855. (**1**, 64.)* (*Sardinia.*)
— **Simone.** 31 D. 1880. II, **11**, 930 (**25**, 31), pl. 264. Ad. **12**, 923 (**26**, 473), pl. 244.
— **Société anonyme le Progrès.** 12 Ap. 1876. II, **7**, 187 (**17**, 139).
— **Taddei.** 20 Ag. 1877. II, **8**, 493 (**19**, 83), pl. 125.
— **Taverdon e Roulina.** 18 Mr. 1879. II, **10**, 114 (**21**, 314), pl. 36.
— **Testud de Beauregard.** 13 Ag. 1880. II, **11**, 546 (**24**, 147), pl. 152.
— **Tittoni.** 28 Mr. 1875. II, **6**, 129 (**15**, 397), pl. 25.
— **Tower.** 20 N. 1880. II, **11**, 823 (**24**, 424), pl. 237.
— **Vervier.** 5 Ap. 1876. II, **7**, 159 (**17**, 111), pl. 38.
— **Viglino.** 30 Je. 1874. II, **5**, 324 (**14**, 433), pl. 76. Ad. **7**, 89 (**17**, 41), pl. 21—Ex. **8**, 405 (**18**, 495).
— **Wannieck e Koppner.** 11 My. 1878. II, **9**, 284 (**20**, 139), pl. 75.
— **Weir.** 25 My. 1877. II, **8**, 290 (**18**, 380), pl. 79.
— **Wyss e Studer.** 22 D. 1873. II, **4**, 606 (**14**, 86), pl. 169.
— and boiler. **Vervier.** 20 Je. 1873. II, **4**, 284 (**13**, 264), pl. 78.
— attachment. **Gamurrini.** 30 O. 1874. II, **5**, 518 (**15**, 127), pl. 120.
— brake. **Grüninger.** 28 Jl. 1873. II, **4**, 358 (**13**, 338), pl. 92.
— cam. **Chatelain.** 29 N. 1865. I, **2**, 323 (**6**, 307), pl. 98.
— compound. **Claperède.** 31 D. 1878. II, **9**, 830 (**21**, 185), pls. 245, 246.
— condenser. **Cermenati.** 30 S. 1862. (**3**, 357.)*
— cylinder. **Bettaglio.** 25 Mr. 1878. II, **9**, 165 (**20**, 20), pl. 38.
— — **Orsi.** 26 Ja. 1872. II, **3**, 23 (**11**, 423), pl. 5.
— — and piston. **Monnier et Brunier.** 30 Je. 1860. (**2**, 392.)* (*Sardinia.*)
— diminutive. **Krupp.** 24 F. 1880. II, **11**, 95 (**23**, 196), pl. 35—Ex. **12**, 279 (**25**, 329).
— domestic. **Fontaine.** 31 Mr. 1870. II, **1**, 150 (**10**, 150), pl. 29.
— dry-pipe. **Brouvet.** 29 S. 1877. II, **8**, 570 (**19**, 160), pl. 141. Ad. **8**, 633 (**19**, 223), pl. 163.
— economizing fuel in. **Arnier.** 29 D. 1864. I, **1**, 530 (**5**, 467), pls. 86, 87.
— escape, noiseless. **Lyng.** 31 Mr. 1879. II, **10**, 188 (**21**, 388), pl. 50.
— exhaust. **Olfenius.** 10 N. 1879. II, **10**, 728 (**22**, 428), pl. 199.
— fire box. **Reid.** 30 Jl. 1881. II, **12**, 715 (**26**, 265), pl. 148.
— indicator gage. **Schaeffer et Budenberg.** 15 Mr. 1881. II, **12**, 195 (**25**, 245), pl. 46.
— locomotive or marine. **Vanossi.** 31 D. 1858. (**2**, 161.)* (*Sardinia.*)
— lubricator. **Hessler.** 24 D. 1866. I, **3**, 308 (**7**, 134), pl. 86.
— marine. **Arnier.** 30 Je. 1859. (**2**, 250.)* (*Sardinia.*)
— — **Gambaro.** 10 Ag. 1868. I, **5**, 275 (**8**, 345).
— — **Mathieu.** 30 S. 1863. (**4**, 51.)*
— — **Mathieu.** 27 Ag. 1869. I, **6**, 172 (**9**, 188), pl. 62. Ad. **6**, 283 (**9**, 299), pl. 94; II, **1**, 151 (**10**, 151), pl. 36.
— — **Russo.** 31 Mr. 1862. (**3**, 206.)*
— — **Wegschaider e Bonetti.** 5 Ag. 1871. II, **2**, 248 (**11**, 170), pl. 54.
— — air pump. **Engelson.** 31 Ag. 1881. II, **12**, 808 (**26**, 358), pl. 20.
— — steam supply regulating. **Würdemann.** 15 Mr. 1881. II, **12**, 189 (**25**, 239), pl. 45. Ad. **12**, 501 (**26**, 51), pl. 125.
— mud catcher. **Parodi.** 31 Mr. 1863. (**3**, 448.)*
— overcoming dead-center in. **Ansaldi.** 20 S. 1866. I, **3**, 213 (**7**, 39), pl. 64.
— portable. **Richardson.** 20 Ap. 1874. II, **5**, 177 (**14**, 286), pl. 41.
— register. **Alby.** 30 Je. 1862. (**3**, 290.)*
— reusing steam. **Greiner.** 24 D. 1879. II, **10**, 851 (**23**, 51), pl. 242.
— rotary. **Arnaud et Cie.** 2 S. 1856. (**1**, 296.)* (*Sardinia.*)
— — **Arnaud et Cie.** 30 S. 1857. (**1**, 480.)* (*Sardinia*).
— — **Arnaud et Cie.** 31 D. 1858. (**2**, 147.)* (*Sardinia.*)

STEAM engine, rotary—continued.
— — **Barberis.** 31 Mr. 1860. (**2**, 321.) Ad. (**1**, 87).* (*Sardinia.*)
— — **Briery.** 31 D. 1860. (**2**, 482.)*
— — **Carosio.** 30 Je. 1863. (**4**, 10.)*
— — **Cheviller.** 30 S. 1858. (**2**, 123.)* (*Sardinia.*)
— — **Fava.** 31 Mr. 1862. (**3**, 340.)*
— — **Fava, Carosio, Migone, e Dall' Orto.** 30 Je. 1863. (**4**, 34)*—Ex. I, **1**, 362 (**5**, 299).
— — **Grandi, Oliveri e Mongiardini.** 30 Je. 1860. (**2**, 400.)* (*Sardinia.*)
— — **Kaiser.** 21 D. 1880. II, **11**, 881 (**24**, 482), pl. 254.
— — **Léonce de Combettes.** 30 S. 1856. (**1**, 257.)* (*Sardinia.*)
— — **Nilsen.** 19 Je. 1880. II, **11**, 395 (**23**, 496), pl. 114.
— — **Samain.** 25 My. 1880. II, **11**, 340 (**23**, 441), pls. 96, 97.
— slide-valve and packing. **Manley.** 15 N. 1866. I, **3**, 253 (**7**, 79), pl. 66.
— speed indicator. **Baumann.** 30 Ap. 1878. II, **9**, 260 (**20**, 115), pl. 70—Ex. **10**, 332 (**22**, 32).
— steam-feed regulator. **Koch e Durham.** 20 Je. 1879. II, **10**, 428 (**22**, 128), pl. 118.
— superheated. **Belon.** 9 Ag. 1867. I, **4**, 268 (**7**, 408), pl. 84.
— using ether in. **Tissot.** 31 D. 1857. (**1**, 317.)* (*Sardinia.*)
hammer. **Schmerber.** 31 Mr. 1859. (**2**, 225.)* (*Sardinia.*)
heat utilizing. **Bassi.** 11 Mr. 1880. II, **11**, 133 (**23**, 234), pl. 45. Ad. **11**, 325 (**23**, 234), pl. 92.
mill. **Nomis di Pollone.** 30 Je. 1863. (**4**, 19.)*
motor. **Gavazzi.** 31 D. 1861. (**3**, 150.)*
pressure indicator. **Emmett.** 15 My. 1867. I, **4**, 163 (**7**, 303), pl. 49.
— **Monte.** 30 O. 1865. I, **2**, 298 (**6**, 282), pl. 84.
pressure regulator. **Traverso.** 7 Jl. 1866. I, **3**, 160 (**6**, 486), pl. 50—Ex. II, **3**, 327 (**12**, 227).
pump. **Luders.** 5 Ap. 1876. II, **7**, 174 (**17**, 126), pl. 42.
— **Musciacco.** 31 My. 1879. II, **10**, 317 (**22**, 17), pl. 90. Ad. **10**, 871 (**23**, 71), pl. 248.
— **Vabe e Cuau.** 17 My. 1875. II, **6**, 252 (**16**, 20) pl. 50.
ram. **Lacour.** 30 D. 1876. II, **7**, 626 (**18**, 79), pl. 159—Ex. **9**, 14 (**19**, 369).
regenerator. **Belly et Chevalier.** 30 Je. 1859. (**2**, 199.)* (*Sardinia.*)
— **Pozzati.** 8 My. 1877. II, **8**, 254 (**18**, 344).
rock drill. **Brown.** 20 Jl. 1870. II, **1**, 308 (**10**, 308), pl. 79—Ex. **2**, 457 (**11**, 379); **4**, 474 (**13**, 454); **7**, 518 (**17**, 471).
— **Brydon, Davidson e Warrington.** 31 My. 1873. II, **4**, 249 (**13**, 229), pl. 67.
— **Cranston.** 30 N. 1873. II, **4**, 580 (**14**, 60), pl. 157.
— **Dell' Acqua.** 30 N. 1872. II, **3**, 522 (**12**, 422), pl. 124.
— **Dubois.** 25 O. 1871. II, **2**, 361 (**11**, 283), pl. 78.
— **Haupt.** 16 Je. 1865. I, **2**, 167 (**6**, 151), pl. 46.
— **Mercier.** 16 Jl. 1881. II, **12**, 645 (**26**, 195), pl. 153.
— **Penrice.** 10 N. 1876. II, **7**, 545 (**17**, 498), pl. 140.
— **Penrice.** 12 N. 1879. II, **10**, 735 (**22**, 435), pl. 202.
— **Schram.** 9 Mr. 1876. II, **7**, 101 (**17**, 53), pl. 24—Ex. **10**, 179 (**21**, 379).
— **Turrettini e Colladon.** 22 S. 1874. II, **5**, 459 (**15**, 68), pl. 107.
— **Winchester e Flagler.** 17 Jl. 1877. II, **8**, 401 (**18**, 491), pl. 107.
separator. **Briart.** 2 Mr. 1881. II, **12**, 138 (**25**, 188), pl. 35.
steering apparatus. **Pedrazzini.** 15 Je. 1878. II, **9**, 369 (**20**, 224), pl. 103.
superheating. **Riot ed Seillière.** 18 Mr. 1879. II, **10**, 130 (**21**, 330), pl. 47. Ad. **11**, 235 (**23**, 336), pl. 69.
trap. **Berryman e Whitley.** 9 O. 1873. II, **4**, 488 (**13**, 468), pl. 137.
utilizing exhaust. **Cetti.** 23 Ag. 1865. I, **2**, 222 (**6**, 206), pl. 61.
— **Ericson.** 31 Ja. 1879. II, **10**, 26 (**21**, 226), pl. 8.
— **de Micheli.** 11 Mr. 1880. II, **11**, 134 (**23**, 235), pl. 47.
— for motive power. **Marchant.** 12 O. 1881. II, **12**, 906 (**26**, 456), pls. 241-243.
STEAMBOAT. **Balduino e Comp.** 31 Mr. 1856. (**1**, 160.)* (*Sardinia.*)
Paganini e Palmieri. 30 Je. 1855. (**1**, 108.)* (*Sardinia.*)

STEAMBOAT—continued.
Thiriet. 31 D. 1860. (**2**, 477.)* (*Sardinia.*)
for coral fishing. **Magliuolo.** 10 D. 1864. I, **1**, 517 (**5**, 454).
jointed. **Ressel.** 21 D. 1881. II, **12**, 1143 (**27**, 193), pl. 324.
pontoon bridge. **Brarin, Mattinisen, de Gedalia e Castenskiold.** 7 Jl. 1871. II, **2**, 201 (**11**, 124), pl. 46.
STEAMSHIP. **Collis.** 24 O. 1879. II, **10**, 697 (**22**, 397), pl. 191.
STEARINE manufacture. **Bastié.** 30 S. 1874. II, **5**, 469 (**15**, 78).
STEEL and iron welding. **Haldeman.** 20 Ap. 1881. II, **12**, 340 (**25**, 390).
article manufacture. **Wheeler.** 23 Je. 1874. II, **5**, 294 (**14**, 403), pl. 67.
casting, chill. **Camerano.** 31 Jl. 1873. II, **4**, 374 (**13**, 354), pl. 98.
cinders, scoriæ, etc., utilizing. 31 Mr. 1868. I, **5**, 59 (**8**, 129).
decarbonizing. **Körting.** 13 Jl. 1880. II, **11**, 468 (**24**, 69).
manufacture. **Asbeck, Osshaus, Bicken et Comp.** 11 Jl. 1876. II, **7**, 342 (**17**, 294), pl. 80.
— **Aube.** 30 S. 1880. II, **11**, 688 (**24**, 289), pl. 200.
— **Bessemer.** 30 S. 1856. (**1**, 250)*—Ex. I, **1**, 136 (**5**, 72.) (*Sardinia.*)
— **Civita.** 28 Ap. 1880. II, **11**, 265 (**23**, 366).
— **Cordier et Martin.** 26 D. 1877. II, **8**, 744 (**19**, 334), pl. 199. Ad. **19**, 251 (**21**, 451), pls. 70, 71.
— **von Ehrenwerth e Prochaska.** 4 N. 1880. II, **11**, 784 (**24**, 385).
— **Ellershausen.** 1 Je. 1868. I, **5**, 163 (**8**, 233), pl. 42.
— **Eyquem.** 11 F. 1875. II, **6**, 56 (**15**, 324).
— **Gallet.** 19 Ag. 1873. II, **4**, 396 (**13**, 376).
— **Hargreaves.** 26 D. 1867. I, **4**, 406 (**8**, 49), pl. 125.
— **Hargreaves.** 28 Ap. 1868. I, **5**, 87 (**8**, 157).
— **Heaton.** 5 Je. 1869. I, **6**, 226 (**9**, 242), pl. 72.
— **Hinde.** 30 S. 1871. II, **2**, 333 (**11**, 255), pl. 70.
— **Jullien.** 7 F. 1879. II, **10**, 48 (**21**, 248), pls. 14, 15.
— **Kinnaird.** 2 Ag. 1867. I, **4**, 250 (**7**, 390), pl. 73.
— **Larkin, Leighton e White.** 22 Ja. 1872. II, **3**, 12 (**11**, 412), pl. 2.
— **Lyttle.** 30 Mr. 1875. II, **6**, 144 (**15**, 412), pl. 28.
— **Marcy.** 6 Ap. 1849. 3.* (*Sardinia.*)
— **Martin.** 1 O. 1864. I, **1**, 456 (**5**, 393).
— **Muller et Cie.** 30 Je. 1863. (**4**, 45.)*
— **Nasaroff.** 29 Ap. 1868. I, **5**, 97 (**8**, 167).
— **Novello.** 30 S. 1863. (**4**, 106)*—Ex. I, **1**, 134 (**5**, 70).
— **Pactod.** 30 S. 1856. (**1**, 269.)* (*Sardinia.*)
— **Paillette.** 30 Je. 1857. (**1**, 449.)* (*Sardinia.*)
— **Ponsard.** 31 Mr. 1868. I, **5**, 54 (**8**, 124), pl. 14—Ex. II, **5**, 137 (**14**, 246).
— **Reunert.** 30 S. 1880. II, **11**, 681 (**24**, 282), pl. 198.
— **Sherman.** 22 Jl. 1876. II, **7**, 366 (**17**, 318), pl. 90.
— **Siemens.** 6 Je. 1872. II, **3**, 226 (**12**, 126), pl. 63—Ex. **9**, 341 (**20**, 196).
— **Siemens.** 30 N. 1872. II, **3**, 527 (**12**, 427), pl. 128.
— **Siemens.** 12 F. 1873. II, **4**, 63 (**13**, 43), pl. 18—Ex. **10**, 72 (**21**, 272).
— **Società metallurgica per l'esercizio dei procedimenti Ponsard.** 20 Mr. 1872. II, **3**, 110 (**12**, 10), pl. 34. Ad. **3**, 222 (**12**, 120), pl. 61; **4**, 278 (**13**, 258), pl. 70.
— **Uchatius.** 30 S. 1856. (**1**, 255.)* (*Sardinia.*)
— **Webster.** 21 D. 1872. II, **3**, 557 (**12**, 457), pls. 133, 134.
— **Webster.** 21 Mr. 1874. II, **5**, 111 (**14**, 220), pl. 25.
— **Wilson.** 30 S. 1862. (**3**, 330.)*
— **Wilson.** 31 D. 1863. (**4**, 124)*—Ex. I, **1**, 453 (**5**, 390).
— and gas. **Società Aube's Steel and Gas Company.** 3 Mr. 1881. II, **12**, 154 (**25**, 204).
— cementation. **Bolasco.** 30 S. 1862. (**3**, 365.)* Ad. (**1**, 125).
— — by liquid hydrocarbons. **Dorsett e Blythe.** 7 S. 1869. I, **6**, 337 (**9**, 353), pls. 104-106.
— direct. **Gussander.** 27 Ag. 1879. II, **10**, 564 (**22**, 264), pl. 159.
— furnace. **Bower.** 24 S. 1881. II, **12**, 839 (**26**, 389), pl. 228.

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— — **Ellershausen.** 1 Je. 1868. I, **5**, 162 (**8**, 232), pl. 41.
— using vegetable ivory. **Launay.** 31 O. 1879. II, **10**, 713 (**22**, 413).
melting. **Société générale de métallurgie.** 28 Mr. 1873. II, **4**, 142 (**13**, 122), pl. 37.
— furnace. **Lepet, fils aîné, frères et Cie.** 8 Ag. 1874. II, **5**, 390 (**14**, 499), pl. 87.
— — blast. **Wunschina.** 19 Jl. 1875. II, **6**, 390 (**16**, 158), pl. 84.
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surface protecting. **Barff.** 16 Ag. 1877. II, **8**, 472 (**19**, 62), pl. 122—Ex. **9**, 470 (**20**, 325).
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— and regenerating. **Averame.** 21 Ag. 1873. II, **4**, 407 (**13**, 387).
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welding. **Haldeman.** 20 Ap. 1881. II, **17**, 340 (**25**, 390).
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— **Barthe.** 19 Jl. 1865. I, **2**, 198 (**6**, 182), pl. 52—Ex. II, **2**, 213 (**11**, 135).
— **Barthe.** 12 F. 1869. I, **6**, 47 (**9**, 63), pl. 13.
— **Bianchetti.** 27 My. 1871. II, **2**, 148 (**11**, 73), pl. 31.
— **Casella.** 31 D. 1870. II, **1**, 421 (**10**, 421), pl. 104.
— **Creuzbaur.** 3 D. 1866. I, **3**, 270 (**7**, 96), pls. 79, 80.
— **Lafargue.** 24 D. 1880. II, **11**, 895 (**24**, 496), pls. 258, 259—Ex. **12**, 1073 (**27**, 123).
— **de Maria.** 27 Ap. 1871. II, **2**, 118 (**11**, 40), pl. 24. Ad. **2**, 355 (**11**, 277), pl. 76.
— **de Maria.** 22 D. 1875. II, **6**, 654 (**16**, 422), pl. 163—Ex. **9**, 826 (**21**, 181); **12**, 1182 (**27**, 232).
— **Odero.** 25 Je. 1875. II, **6**, 341 (**16**, 109), pl. 73.
— **Podestà.** 17 N. 1875. II, **6**, 587 (**16**, 355), pl. 141.
— **Schiaffino.** 15 O. 1875. II, **6**, 543 (**16**, 311), pl. 130.
— **Schliek.** 4 Ag. 1874. II, **5**, 363 (**14**, 472), pl. 84.
— **Siciliano.** 31 Ja. 1876. II, **7**, 42 (**16**, 494), pl. 8.
— **Somzée.** 27 S. 1878. II, **9**, 585 (**20**, 440), pls. 181, 182.
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— electric. **Caselli.** 16 N. 1878. II, **9**, 691 (**21**, 46), pls. 211–213.
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— **Kunstädter.** 18 Mr. 1879. II, **10**, 144 (**21**, 344), pl. 51—Ex. **11**, 46 (**23**, 147); Ex. **12**, 37 (**25**, 87); **13**, 302 (**28**, 74).
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— **Harfield.** 14 Mr. 1866. I, **3**, 68 (**6**, 394), pl. 21.

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— **Malling.** 25 Ag. 1870. II, **1**, 328 (**10**, 328). pl. 82—Ex. **2**, 339 (**11**, 261).

STEREOSCOPE. **Ponti.** 31 Ag. 1868. I, **5**, 291 (**8**, 361), pl. 87—Ex. **6**, 84 (**9**, 100); II, **2**, 81 (**11**, 3); **3**, 123 (**12**, 23); **4**, 146 (**13**, 126); **5**, 181 (**14**, 290); **6**, 185, (**15**, 453).
Ponti. 11 Ap. 1874. II, **5**, 153 (**14**, 262), pl. 34. Ad. **5**, 413 (**15**, 22), pl. 97—Ex. **6**, 186 (**15**, 454).
Ponti. 22 Jl. 1876. II, **7**, 352 (**17**, 304), pl. 87—Ex. **8**, 437 (**19**, 27).

STEREOTYPE, hard rubber. **Kissam.** 20 My. 1878. II, **9**, 319 (**20**, 174)—Ex. **10**, 306 (**22**, 6).

STEREOTYPING. **Fabre.** 25 F. 1881. II, **12**, 124 (**25**, 174), pls. 29, 30.
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Jannin. 26 Ap. 1879. II, **10**, 248 (**21**, 448).
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STONE, artificial. **Calamel.** 10 F. 1871. II, **2**, 33 (**10**, 455).
— **Coignet.** 30 S. 1863. (**4**, 97)*—Ex. I, **1**, 157 (**5**, 93).
— **Deléon.** 28 F. 1874. II, **5**, 75 (**14**, 184).
— **Erba.** 22 Mr. 1871. II, **2**, 73 (**10**, 495).
— **Gianoli.** 24 Ap. 1870. II, **1**, 161 (**10**, 161), pl. 37.
— **Guelton e Sandeman.** 7 F. 1879. II, **10**, 61 (**21**, 261).
— **Magaud.** 26 O. 1880. II, **11**, 753 (**24**, 354)—Ex. **12**, 956 (**27**, 6).
— **Moro.** 22 Je. 1870. II, **1**, 256 (**10**, 256).
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— **Peduzzi.** 15 Je. 1878. II, **9**, 365 (**20**, 220). Ad. **9**, 706 (**21**, 61).
— **Peduzzi.** 24 D. 1880. II, **11**, 901 (**25**, 2).
— **Ransome.** 31 D. 1861. (**3**, 166.)*
— **Scott.** 13 S. 1871. II, **2**, 313 (**11**, 235)—Ex. **5**, 275 (**14**, 384).
— **Società Edificatrice italiana.** 1 My. 1872. II, **3**, 179 (**12**, 79).
— **Vigouroux.** 14 Ja. 1874. II, **5**, 10 (**14**, 119)—Ex. **6**, 170 (**15**, 438).
— **Vineis.** 6 N. 1880. II, **11**, 790 (**24**, 391).
— from soap refuse. **Py.** 31 O. 1881. II, **12**, 966 (**27**, 16), pl. 251.
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— **Munro.** 10 Ag. 1868. I, **5**, 271 (**8**, 341), pl. 81—Ex. II, **2**, 273 (**11**, 195).
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— machine. **Adams.** 4 My. 1876. II, **7**, 221 (**17**, 173), pl. 53.
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— — **Golay.** 28 Mr. 1870. II, **1**, 126 (**10**, 126), pl. 30.
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— **Molinari.** 30 S. 1856. (**1**, 252.)* (*Sardinia.*)
— **Moro.** 6 Ag. 1872. II, **3**, 353 (**12**, 253), pl. 90—Ex. **4**, 552 (**14**, 32).
— apparatus. **Kohler.** 26 Ja. 1881. II, **12**, 13 (**25**, 63), pl. 4.
— — **Pike.** 19 Je. 1880. II, **11**, 404 (**24**, 5), pls. 121, 122.
— — **Sears.** 30 Je. 1857. (**1**, 434.)* (*Sardinia.*)
excavator. **Rowdon.** 20 F. 1877. II, **8**, 70 (**18**, 160), pl. 21.
explorer. **Westerman.** 31 Mr. 1858. (**2**, 34.)* (*Sardinia.*)
foundation. **Giraud.** 12 F. 1867. I, **4**, 60 (**7**, 199).
locomotive. **Bono.** 30 D. 1872. II, **3**, 571 (**12**, 471), pl. 140.

SUBMERGED bodies, finding. **McEvoy.** 8 F. 1882. II, **13**, 91 (**27**, 363).

SUGAR bleaching. **Schäffer e Budenberg.** 13 Jl. 1872. II, **3**, 312 (**12**, 212), pl. 80.
claying. **Körting.** 19 D. 1876. II, **7**, 600 (**18**, 53), pl. 155.
— **Langen.** 30 S. 1874. II, **5**, 471 (**15**, 80), pl. 107.
clarifying. **Langen.** 30 Ap. 1880. II, **11**, 270 (**23**, 371), pl. 76.
cutting machine. **Anderson.** 6 Ap. 1875. II, **6**, 155 (**15**, 423), pls. 32, 33.
— **Baravelli.** 11 Ag. 1869. I, **6**, 316 (**9**, 332), pl. 104.
— **Ghisi.** 10 F. 1865. I, **2**, 44 (**6**, 28), pl. 2.
— **Telesio.** 8 S. 1866. I, **3**, 210 (**7**, 36), pl. 62.
drier. **Langen.** 18 N. 1880. II, **11**, 812 (**24**, 413), pl. 231.
extracting. **Società Dessauer-Aktien-Zucker-Raffinerie.** 20 Ap. 1881. II, **12**, 335 (**25**, 385), pl. 78—Ex. **13**, 209 (**27**, 481).
— **de Retz.** 11 Ag. 1851. 19.* (*Sardinia.*)
— **de Retz.** 15 Ag. 1852. 35.* (*Sardinia.*)
— from asphodel. **Wuy.** 30 Je. 1856. (**1**, 234.)* (*Sardinia.*)
— from maize and sorghum. **Poschini-Finetti.** 18 N. 1879. II, **10**, 770 (**22**, 470).
juice clarifying. **Loewig.** 15 Mr. 1878. II, **9**, 142 (**19**, 497).
juice evaporator. **Morrell.** 17 N. 1881. II, **12**, 1015 (**27**, 65), pl. 275.
— **Wahl.** 9 N. 1881. II, **12**, 983 (**27**, 33), pl. 265.
juice filtering and clarifying. **Beauvillain.** 24 D. 1880. II, **11**, 899 (**24**, 500), pl. 259—Ex. **12**, 424 (**25**, 474).
juice purifying. **Legrange.** 8 Ap. 1872. II, **3**, 126 (**12**, 26).
— **Licht.** 15 F. 1880. II, **11**, 60 (**23**, 161).
— **Scheibler.** 27 Ap. 1882. II, **13**, 366 (**28**, 138).
juice treating. **Degener.** 14 F. 1882. II, **13**, 100 (**27**, 372).
manufacture. **Brissonneau frères et Cie.** 28 Jl. 1881. II, **12**, 676 (**26**, 226).
— **Erba.** 20 My. 1871. II, **2**, 126 (**11**, 48), pl. 29.
— **Erba.** 15 Ag. 1872. II, **3**, 373 (**12**, 273), pl. 94.
— **Jouve.** 5 Ap. 1876. II, **7**, 166 (**17**, 118).
— **Langen.** 18 N. 1872. II, **3**, 503 (**12**, 403), pl. 119.
— **Langen.** 18 O. 1878. II, **9**, 643 (**20**, 498), pl. 199.
— **Lebaudy.** 29 Ap. 1832. II, **13**, 381 (**28**, 153), pls. 97, 98.
— **Loewig.** 21 My. 1879. II, **10**, 300 (**21**, 500).
— **Mambré.** 10 Ag. 1877. II, **8**, 466 (**19**, 56), pl. 121.
— **Périer et Pessoz.** 31 Mr. 1860. (**2**, 358.)* (*Sardinia.*)
— **Rousseau e Rzyszczewki.** 3 S. 1872. II, **3**, 404 (**12**, 304).
— **Schröder.** 19 Ag. 1871. II, **2**, 266 (**11**, 188), pl. 57—Ex. **3**, 379 (**12**, 279).
— beet. **Alloatti.** 28 My. 1868. I, **5**, 143 (**8**, 213).
— cube. **Gavoty.** 17 Mr. 1880. II, **11**, 126 (**23**, 227), pl. 44.

SUGAR manufacture—continued.
— from cucumbers. **Pons.** 25 O. 1871. II, **2**, 368 (**11**, 290).
— from distillery refuse. **Palmeri.** 28 S. 1870. II, **1**, 364 (**10**, 364).
— from starch. **Wassmus.** 10 Ag. 1871. II, **2**, 252 (**11**, 174), pl. 60.
— granulated. **Dreyfus.** 31 Mr. 1881. II, **12**, 264 (**25**, 314), pl. 64.
mill. **Allemano e Gallo.** 25 Je. 1874. II, **5**, 310 (**14**, 419), pl. 72.
press. **Pzillas.** 13 Jl. 1880. II, **11**, 470 (**24**, 71), pl. 133.
purifying. **Erba.** 18 Jl. 1871. II, **2**, 222 (**11**, 144), pl. 53.
refining. **Isnard.** 12 F. 1873. II, **4**, 62 (**13**, 42), pl. 17.
— **Merijot.** 15 Mr. 1878. II, **9**, 143 (**19**, 498), pl. 36.
— **Weinrich.** 14 Mr. 1873. II, **4**, 221 (**13**, 201), pl. 59—Ex. **5**, 175 (**14**, 284); **10**, 146 (**21**, 346); **13**, 226 (**27**, 498).
whitening. **Baudoüin.** 22 D. 1873. II, **4**, 602 (**14**, 82), pl. 168.

SULPHATE. *See also* Aluminium, Ammonium, Barium, Calcium, Iron ferrous, Potassium-aluminium, Potassium, Sodium.
manufacture. **Hargreaves.** 29 Jl. 1875. II, **6**, 401 (**16**, 169), pl. 90—Ex. **11**, 660 (**24**, 261).
— **Hargreaves.** 12 D. 1876. II, **7**, 590 (**18**, 43), pl. 153.
— **Persoz.** 30 S. 1855. (**1**, 83.)* (*Sardinia.*)

SULPHIDE. *See* Carbon bisulphide, Metal, Ore, Potassium.

SULPHITE. *See* Calcium, bisulphite.

SULPHOCYANIDE manufacture. **de Gunzburg et Tcherniac.** 29 Mr. 1881. II, **12**, 242 (**25**, 292), pls. 58, 59.
— **Tcherniac et Gunzburg.** 20 Ap. 1878. II, **9**, 214 (**20**, 69), pl. 54. Ad. **10**, 227 (**21**, 427), pl. 65.

SULPHUR compounds, treating. **Hargreaves e Robinson.** 20 Jl. 1870. II, **1**, 304 (**10**, 304)—Ex. **4**, 472 (**13**, 452); **7**, 452 (**17**, 404).
condenser. **Gardelli.** 31 My. 1879. II, **10**, 328 (**22**, 28), pl. 85.
distilling apparatus. **Amavet.** 17 Ja. 1866. I, **3**, 9 (**6**, 335), pl. 5. Ad. **3**, 183 (**7**, 9); **4**, 96 (**7**, 236), pl. 29.
distilling furnace. **Molinelli.** 15 Mr. 1877. II, **8**, 103 (**18**, 193), pl. 28.
extracting. **Ansaldo ed al.** 16 Ja. 1869. I, **6**, 17 (**9**, 33), pl. 2.
— **Bonnet.** 29 S. 1877. II, **8**, 560 (**19**, 150), pl. 140.
— **Bonnet.** 8 Je. 1878. II, **9**, 353 (**20**, 208), pl. 97.
— **Brunel e Fuchs.** 28 Jl. 1873. II, **4**, 355 (**13**, 335), pl. 96. Ad. **4**, 601 (**14**, 81), pl. 169.
— **Brunfaut.** 13 F. 1867. I, **4**, 64 (**7**, 203). Ad. **4**, 108 **7**, 248), pl. 34; **4**, 124 (**7**, 264), pl. 38; **4**, 130 (**7**, 270), pl. 40—Ex. **5**, 136 (**8**, 206); **6**, 149 (**9**, 165); II. **1**, 175 (**10**, 175); **2**, 90 (**11**, 12); **3**, 121 (**12**, 21); **4**, 165 (**13**, 145); **5**, 144 (**14**, 253); **6**, 138 (**15**, 406); **7**, 138 (**17**, 90); **8**, 135 (**18**, 225).
— **Calamel e de Chateauneuf.** 17 Ap. 1881. II, **12**, 303 (**25**, 353), pl. 72. Ad. **12**, 907 (**26**, 457), pl. 243—Ex. **13**, 198 (**27**, 470).
— **Coscia.** 22 Ap. 1867. I, **4**, 109 (**7**, 249), pl. 37.
— **Croll.** 31 D. 1875. II, **6**, 679 (**16**, 447). Ad. **7**, 106 (**17**, 58).
— **Croll.** 20 F. 1878. II, **9**, 79 (**19**, 434).
— **Dalgarius.** 12 Mr. 1873. II, **4**, 112 (**13**, 92), pl. 31.
— **Déperais.** 16 Je. 1868. I, **5**, 207 (**8**, 277), pl. 63.
— **Donner ed al.** 19 D. 1868. I, **5**, 414 (**8**, 485). Ad. II, **1**, 290 (**10**, 290), pl. 77.
— **Dubern.** 22 O. 1874. II, **5**, 509 (**15**, 118), pl. 119.
— **Gerlach.** 20 F. 1877. II, **8**, 65 (**18**, 155).
— **Gill.** 19 D. 1868. I, **5**, 413 (**8**, 484), pl. 119.
— **Gill.** 26 Ag. 1871. II, **2**, 282 (**11**, 204), pl. 61.
— **Gill.** 22 O. 1872. II, 3, 474 (**12**, 374).
— **Gritti.** 13 Mr. 1868. I, **5**, 30 (**8**, 100), pl. 9. Ad. **6**, 148 (**9**, 164), pl. 46.
— **Herran.** 7 My. 1868. I, **5**, 111 (**8**, 181), pl. 26. Ad. **5**, 422 (**8**, 493), pl. 128.
— **Hollway.** 15 Je. 1878. II, **9**, 374 (**20**, 229).
— **Johnson.** 14 Ag. 1874. II, **5**, 398 (**15**, 7), pls. 92, 93.
— **Krafft.** 12 N. 1879. II, **10**, 742 (**22**, 442).
— **de Laire ed al.** 30 S. 1867. I, **4**, 324 (**7**, 464), pl. 98—Ex. **5**, 341 (**8**, 411).
— **de Laire.** 26 N. 1868. I, **5**, 371 (**8**, 442), pl. 108.
— **de Laire de la Brosse.** 25 Ja. 1869. I, **6**, 20 (**9**, 36), pl. 5.

SULPHUR extracting—continued.
— **de la Tour du Breuil fratelli.** 23 Jl. 1881. II, **12**, 672 (**26**, 222), pl. 160. Al. **13**, 71 (**27**, 343). Ad. **13**, 242 (**28**, 14).
— **Moffat.** 25 Je. 1874. II, **5**, 306 (**14**, 415).
— **Moffat.** 25 Je. 1874. II, **5**, 308 (**14**, 417).
— **Mottura.** 14 My. 1880. II, **11**, 316 (**23**, 417), pl. 92. Ad. **11**, 603 (**24**, 204); **12**, 52 (**25**, 102); **12**, 1166 (**27**, 216); **13**, 226 (**28**, 28), pl. 67.
— **Orlando.** 4 My. 1876. II, **7**, 218 (**17**, 170), pl. 52.
— **O'Shea.** 9 F. 1874. II, **5**, 42 (**14**, 151), pl. 7.
— **Pantano.** 9 Ag. 1879. II, **10**, 533 (**22**, 233), pl. 152.
— **Pappalardo.** 5 Ja. 1873. II, **4**, 11 (**12**, 491), pl. 3—Ad. **4**, 130 (**13**, 110).
— **Pirckher.** 13 O. 1876. II, **7**, 493 (**17**, 446).
— **Ranfaldi.** 6 Mr. 1874. II, **5**, 91 (**14**, 200), pl. 19.
— **Sinopoli.** 31 Jl. 1873. II, **4**, 365 (**13**, 345), pl. 97. Ad. **5**, 196 (**14**, 305), pl. 42; **7**, 390 (**17**, 342), pl. 98.
— **Sinopoli.** 31 Ag. 1877. II, **8**, 520 (**19**, 110), pl. 129.
— **Terracchini.** 22 Ja. 1872. II, **3**, 20 (**11**, 420).
— **Terrachini e Pagliani.** 15 Mr. 1876. II, **7**, 112 (**17**, 64), pl. 27.
— **Testud de Beauregard e Martin.** 14 F. 1873. II, **4**, 71 (**13**, 51), pl. 19.
— **Thomas.** 23 My. 1865. I (**6**, 123)—Ex. **3**, 166 (**6**, 492). Ad. **4**, 44 (**7**, 183), pl. 14—Ex. **4**, 227 (**7**, 367); **5**, 241 (**8**, 311).
— **Toussaint.** 25 O. 1871. II, **2**, 373 (**11**, 295), pl. 80. Ad. **3**, 100 (**11**, 500), pl. 30.
— **Vogel, Bohringen, Müller e Decker.** 13 My. 1875. II, **6**, 243 (**16**, 11), pls. 50, 51.
— **Zanolini.** 6 My. 1867. I, **4**, 144 (**7**, 284), pl. 45.
— **Zanolini.** 13 Mr. 1868. I, **5**, 37 (**8**, 107).
— apparatus. **Depérais.** 30 Je. 1869. I, **6**, 274 (**9**, 290), pl. 92.
— — **de Lair de la Brosse.** 7 Jl. 1866. I, **3**, 164 (**6**, 490), pl. 52. Ad. **3**, 305 (**7**, 131), pl. 86.
— — **Orlando.** 5 D. 1871. II, **2**, 431 (**11**, 353), pl. 91.
— — **Ranfaldi.** 7 D. 1875. II, **6**, 634 (**16**, 402), pl. 156.
— by superheated steam. **Zandini.** 10 O. 1867. I, **4**, 331 (**7**, 472), pl. 101.
— from ore. **Légé.** 20 Ag. 1869. I, **6**, 323 (**9**, 339), pl. 109.
— from pyrites. **Scott e Connolly.** 20 O. 1881. II, **12**, 935 (**26**, 485), pl. 248.
— from sulphuric acid. **Calamel e de Chateauneuf.** 23 Ag. 1878. II, **9**, 518 (**20**, 373), pl. 162.
fumes, utilizing. **Rössler.** 14 F. 1882. II, **13**, 103 (**27**, 375), pl. 31.
furnace. **Argilier.** 24 Ja. 1870. II, **1**, 24 (**10**, 24), pl. 3. Ad. **1**, 265 (**10**, 265), pl. 64.
— **Bianchi.** 11 Mr. 1882. II, **13**, 186 (**27**, 458), pl. 52.
— **Gill.** 25 Je. 1875. II, **6**, 340 (**16**, 108), pl. 72.
— **Grisanti.** 24 N. 1874. II, **5**, 577 (**15**, 186), pl. 141—Ex. **6**, 491 (**16**, 259).
— **Hirzel.** 6 My. 1864. I, **1**, 198 (**5**, 134), pl. 17.
— **Kayser.** 24 S. 1864. I, **1**, 424 (**5**, 361), pl. 43.
— **Kossuth e Foa.** 18 Jl. 1878. II, **9**, 445 (**20**, 300), pl. 130.
— **Peratoner.** 7 Ag. 1875. II, **6**, 409 (**16**, 177), pl. 93.
— **Testore.** 14 My. 1874. II, **5**, 230 (**14**, 339), pl. 51.
— **Zangàra e Gatto.** 28 F. 1880. II, **11**, 101 (**23**, 202), pl. 37.
liquifying apparatus. **Légé.** 17 F. 1869. I, **6**, 53 (**9**, 69), pl. 12.
manufacture. **Brunfaut.** 20 S. 1866. I, **3**, 214 (**7**, 40), pl. 63. Ad. **4**, 25 (**7**, 164); **4**, 103 (**7**, 243).
— **Dellamore.** 15 Ag. 1872. II, **3**, 369 (**12**, 269), pl. 89.
— **Macri.** 28 F. 1878. II, **9**, 103 (**19**, 458), pl. 28.
— **Preuss.** 25 My. 1870. II, **1**, 215 (**10**, 215), pl. 54.
melting. **Frizzoni.** 27 Je. 1877. II, **8**, 370 (**18**, 460), pl. 99.
— **Mottura.** 25 Ap. 1882. II, **13**, 353 (**28**, 125), pl. 94. Ad. **13**, 383 (**28**, 155), pl. 100.
— **Pappalardo.** 17 S. 1875. II, **6**, 482 (**16**, 250), pl. 110.
— **Peratoner.** 2 N. 1877. II, **8**, 631 (**19**, 221), pl. 163.
— **Zenone.** 9 Ag. 1878. II, **9**, 517 (**20**, 372), pl. 157.
— apparatus. **Catelano e Caccamese.** 12 Ap. 1881. II, **12**, 301 (**25**, 351), pl. 71. Ad. **12**, 980 (**27**, 30), pl. 264.
— — **Gritti.** 20 F. 1877. II, **8**, 64 (**18**, 154), pl. 18—Ex. **9**, 192 (**20**, 47); **9**, 841 (**21**, 196); **10**, 850 (**23**, 50).

SULPHUR melting—continued.
— filter. **Abrami e de Rechter.** 29 Jl. 1881. II, **12**, 688 (**26**, 238), pl. 174.
— furnace. **Gill.** 23 O. 1880. II, **11**, 741 (**24**, 342), pl. 216.
— — **Glover.** 25 F. 1881. II, **12**, 129 (**25**, 179), pl. 30.
— — **Le Neve.** 26 N. 1880. II, **11**, 830 (**24**, 431), pl. 237.
— — **Mottura.** 23 Ap. 1880. II, **11**, 253 (**23**, 354), pl. 73.
— — **Nicastro.** 21 D. 1880. II, **11**, 890 (**24**, 491), pl. 256.
— — **Picone, di Giorgio e d'Angelo.** 19 Je. 1880. II, **11**, 390 (**23**, 491), pls. 112, 113; **11**, 712 (**24**, 313), pl. 209. Ad. **12**, 22 (**25**, 72).
— — **Picone, di Giorgio e d'Angelo.** 25 O. 1881. II, **12**, 945 (**26**, 495), pl. 250.
— — **de Richter.** 31 Ag. 1880. II, **11**, 594 (**24**, 195), pl. 157. Ad. **12**, 518 (**26**, 68), pl. 128.
— — **Rougier.** 30 Je. 1870. II, **1**, 277 (**10**, 277), pl. 64.
— — **Taormina.** 16 Mr. 1880. II, **11**. 139 (**23**, 240), pl. 48.
— — **Taormina e Comp.** 26 Ag. 1881. II, **12**, 764 (**26**, 314), pl. 199. Ad. **13**, 74 (**27**, 346), pl. 22.
— — **Terrachini.** 11 Mr. 1872. II, **3**, 71 (**11**, 471), pl. 19.
mill. **Ventafrida.** 15 Mr. 1877. II, **8**, 126 (**18**, 216), pl. 36.
mine ventilating. **Terrachini.** 10 Ap. 1872. II, **3**, 148 (**12**, 48).
ore extracting. **Croll.** 17 My. 1875. II, **6**, 249 (**16**, 17).
ore melting. **Botteri.** 23 Jl. 1881. II, **12**, 666 (**26**, 216), pl. 172.
ore treating. **Argilier.** 13 D. 1869. I, **6**, 453 (**9**, 469), pl. 145.
— **de Labretoigne.** 18 My. 1877. II, **8**, 280 (**18**, 370). Ad. **8**, 542 (**19**, 132), pl. 136.
— **de Labretoigne.** 15 Mr. 1878. II, **9**, 115 (**19**, 470).
— **Sautereau.** 8 F. 1882. II, **13**, 92 (**27**, 364), pl. 30.
— by carbon bisulphide. **Roswag.** 21 D. 1881. II, **12**, 1130 (**27**, 180), pl. 320.
ore washing. **de Labretoigne.** 6 Jl. 1877. II, **8**, 378 (**18**, 468).
pulverizing. **Donner.** 30 D. 1878. II, **9**, 805 (**21**, 160).
refining. **Coscia.** 26 Mr. 1867. I, **4**, 85 (**7**, 225), pl. 28.
— **Gallotti e Comp.** 7 Mr. 1882. II, **13**, 166 (**27**, 438), pl. 46.
— furnace. **de Rechter.** 23 My. 1870. II, **1**, 208 (**10**, 208), pl. 54.
— — **Magnaghi.** 9 N. 1878. II, **9**, 680 (**21**, 35), pl. 207. Al. **10**, 453 (**22**, 153).
— — **Molinelli.** 18 Ap. 1879. II, **10**, 232 (**21**, 432), pl. 68—Ex. **11**, 218 (**23**, 319).
removing from gases and liquids. **Lux.** 30 Je. 1881. II, **12**, 594 (**26**, 144). Ad. **12**, 1156 (**27**, 206).
roaster. **Gill.** 21 Jl. 1864. I, **1**, 361 (**5**, 298), pl. 73.
roasting furnace. **Saunier.** 11 D. 1868. I, **5**, 401 (**8**, 472). Ad. II, **4**, 581 (**14**, 61), pl. 161.
separating. **Condy.** 30 N. 1864. I, **1**, 499 (**5**, 436). Ad. (**de Sassenay**) **4**, 63 (**7**, 202); **5**, 285 (**8**, 355), pl. 86.
treating apparatus. **de Bégue.** 13 D. 1869. I, **6**, 454 (**9**, 470), pls. 146, 147.

SULPHURIZER. **Abeni, Binetti e Guarneri.** 30 Mr. 1878. II, **9**, 166 (**20**, 21), pl. 41.
Borello fratelli. 27 F. 1877. II, **8**, 76 (**18**, 166), pl. 23.
Bossignone. 5 Mr. 1877. II, **8**, 97 (**18**, 187), pl. 26.
Carelli. 21 My. 1879. II, **10**, 292 (**21**, 492), pl. 81.
Ferretti. 31 Ja. 1879. II, **10**, 43 (**21**, 243), pl. 8.
Ferretti. 26 Je. 1880. II, **11**, 429 (**24**, 30), pl. 110.
Fojadelli. 9 N. 1876. II, **7**, 534 (**17**, 487), pl. 136.
Porno. 15 Ja. 1877. II, **8**, 18 (**18**, 108), pl. 4.
Franzero. 6 Jl. 1877. II, **8**, 373 (**18**, 463), pl. 102.
Garbiglia. 27 F. 1877. II, **8**, 83 (**18**, 173), pl. 23.
Gazzera. 12 Je. 1876. II, **7**, 280 (**17**, 232), pl. 65. Ad. **8**, 14 (**18**, 104), pl. 1.
Gindroz. 31 Jl. 1879. II, **10**, 514 (**22**, 214), pl. 142.
Guglielmetti e Ghisoli. 11 Je. 1879. II, **10**, 357 (**22**, 57), pl. 97.
Molinero fratelli. 18 Mr. 1879. II, **10**, 142 (**21**, 342), pl. 46.
Mure e Comp. 18 My. 1877. II, **8**, 272 (**18**, 362), pl. 76.
Pane. 30 Ap. 1877. II, **8**, 231 (**18**, 321), pl. 65.
Rustichelli. 30 Mr. 1877. II, **8**, 160 (**18**, 250), pl. 46.
Simonazzi. 30 My. 1874. II, **5**, 256 (**14**, 365), pl. 58.

SULPHURIZER—continued.
Verdobbio. 28 Mr. 1877. II, **8**, 154 (**18**, 244), pl. 43.
bellows. **Ronchi.** 27 F. 1877. II, **8**, 73 (**18**, 163), pl. 20.
compound. **Pezzali.** 24 D. 1878. II, **9**, 788 (**21**, 143).
pump, vine. **Greuter.** 19 N. 1869. I, **6**, 419 (**9**, 435), pl. 134.
vine. **Almansi.** 28 F. 1878. II, **9**, 99 (**19**, 454), pl. 28.
— **Trecco.** 24 Ap. 1870. II, **1**, 164 (**10**, 164), pl. 38.
SUMAC mill. **Smith.** 24 D. 1866. I, **3**, 304 (**7**, 130), pl. 87.
SUPERHEATED air furnace. **Ceva.** 10 F. 1872. II, **3**, 47 (**11**, 447), pl. 10.
SUPERHEATER. **Corradi et de Lafond.** 30 S. 1862. (**3**, 334).*
Tierry. 31 Mr. 1864. (**4**, 176.)*
SUPPORTER. *See* Abdominal, Car passenger, Clothing, Invalid.
SURFACE preparing for printing, stamping, fulling, and embossing. **Sachs.** 16 Ap. 1881. II, **12**, 326 (**25**, 376).
SURGICAL instrument, cystotomic. **Bergamini.** 30 Jl. 1881. II, **12**, 691 (**26**, 241), pl. 174.
saw. **Ceccarelli.** 13 Ap. 1882. II, **13**, 317 (**28**, 89), pl. 82.
SURVEYING can. **Laurent.** 25 My. 1878. II, **9**, 320 (**20**, 175), pl. 87.
instrument. **Attanasio.** 2 F. 1871. II, **2**, 27 (**10**, 449), pl. 4.
— **Bastos.** 21 D. 1881. II, **12**, 1126 (**27**, 176), pl. 316.
— **Berdan.** 18 Je. 1875. II, **6**, 319 (**16**, 87), pl. 70.
— **Besta.** 6 Ag. 1878. II, **9**, 499 (**20**, 354), pl. 152.
— **Bohme.** 17 F. 1876. II, **7**, 68 (**17**, 20), pl 17. Ad. **7**, 401 (**17**, 20), pl. 99.
— **By.** 24 O. 1879. II, **10**, 699 (**22**, 399), pl. 191.
— **de Bylandt.** 28 Jl. 1873. II, **4**, 357 (**13**, 337), pl. 97. Ad. **4**, 534 (**14**, 14), pl. 143.
— **Cagacci.** 25 Ap. 1878. II, **9**, 244 (**20**, 99), pl. 62.
— **Cagnacci.** 29 D. 1879. II, **10**, 855 (**23**, 55), pl. 242.
— **Faggioli e Frattini.** 29 D. 1873. II, **4**, 612 (**14**, 92), pl. 171.
— **Frigo.** 5 S. 1878. II, **9**, 554 (**20**, 409), pl. 171.
— **Giadresco.** 14 F. 1870. II, **1**, 63 (**10**, 63), pl. 10.
— **Giadresco.** 5 N. 1870. II, **1**, 379 (**10**, 379), pl. 99.
— **Hahn.** 15 N. 1877. II, **8**, 658 (**19**, 248), pl. 172.
— **Jagn.** 16 Ag. 1877. II, **8**, 485 (**19**, 75), pl. 123.
— **Le Boulenger.** 20 Ap. 1874. II, **5**, 178 (**14**, 287), pl. 40.
— **Lobbia.** 24 S. 1881. II, **12**, 827 (**26**, 377), pl. 222.
— **Magnaghi.** 29 Je. 1874. II, **5**, 321 (**14**, 430), pl. 73.
— **Martelli.** 23 Ap. 1880. II, **11**, 252 (**23**, 353), pls. 74–76.
— **Mathis.** 22 F. 1876. II, **7**, 73 (**17**, 25), pl. 18.
— **Pescetto.** 16 S. 1872. II, **3**, 427 (**12**, 327), pl. 101.
— **Petrini.** 18 My. 1877. II, **8**, 274 (**18**, 364), pl. 72.
— **Plebani.** 15 Mr. 1871. II, **2**, 65 (**10**, 487), pl. 11—Ex. **5**, 169 (**14**, 278).
— **Rossi.** 15 Mr. 1877. II, **8**, 123 (**18**, 213), pl. 34.
— **Spano.** 14 Je. 1877. II, **8**, 337 (**18**, 427), pl. 92.
— **Syré.** 19 D. 1876. II, **7**, 596 (**18**, 49), pl. 154—Ex. **8**, 733 (**19**, 323).
— **Valtolina.** 12 O. 1881. II, **12**, 900 (**26**, 450), pl. 240.
— **Weldon.** 26 Ag. 1875. II, **6**, 451 (**16**, 219), pl. 95.
— **Wolf.** 7 N. 1874. II, **5**, 542 (**15**, 151), pl. 128.
— agrometer. **Prosperi.** 9 S. 1867. I, **4**, 311 (**7**, 451), pl. 95.
— for measuring vertical angles. **Spano.** 9 F. 1867. I, **4**, 53 (**7**, 192), pl. 85—Ex. **5**, 138 (**8**, 208).
— recorder. **Eredi.** 14 O. 1880. II, **11**, 714 (**24**, 315), pl. 206.
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— photographic. **Chevallier.** 30 Ja. 1865. I, **2**, 26 (**6**, 10), pl. 3.
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TACKLE. **Orlando fratelli.** 31 Mr. 1862. (**3**, 230.)*
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— **Guyot d'Arlincourt.** 12 O. 1866. I, **3**, 229 (**7**, 55), pls. 67, 68.
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— **Moretta.** 30 Je. 1860. (**2**, 373.)* (*Sardinia.*)
— **Phelps.** 28 Mr. 1873. II, **4**, 139 (**13**, 119), pls. 39–41.
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telegraph. **van Rysselberghe.** 7 Ap. 1882. II, **13**, 301 (**28**, 73). pl. 81.
theatrical. **Ader.** 24 S. 1881. II, **12**, 836 (**26**, 386), pl. 223.
wire. **Chinnock e Harrison.** 28 F. 1880. II, **11**, 110 (**23**, 211), pl. 39.

TELESCOPE. **Fritsch e Forster.** 15 N. 1877. II, **8**, 718 (**19**, 308), pl. 189.

TENT. *See also* Hammock.
Chapelle, Arniot et Caron. 30 S. 1861. (**3**, 109.)*
Cordonnier. 16 Je. 1865. I, **2**, 163 (**6**, 147), pl. 41.
Cristofini. 31 Mr. 1861. (**2**, 492)*—Ex. **1**, 161 (**5**, 97); **1**, 190 (**5**, 126); **2**, 120 (**6**, 104); **3**, 106 (**6**, 432).
Du Bled. 17 N. 1875. II, **6**, 585 (**16**, 353), pl. 141.
Ferretti de Breintenbach. 14 My. 1880. II, **11**, 311 (**23**, 412), pl. 85.
Forster. 16 O. 1880. II, **11**, 720 (**14**, 321), pl. 211.
Godillot. 21 Mr. 1870. II, **1**, 97 (**10**, 97), pl. 21.
Kolp. 10 Je. 1880. II, **11**, 360 (**23**, 461), pl. 100.
Menotti. 30 Je. 1858. (**2**, 104.)* (*Sardinia.*)
Rencher. 7 F. 1879. II, **10**, 55 (**21**, 255), pl. 16.
Varnier. 31 Mr. 1863. (**3**, 458)*—Ex. I, **1**, 149 (**5**, 85); I, **1**, 165 (**5**, 101), pl. 14.
bed, etc. **Manens.** 4 S. 1875. II, **6**, 467 (**16**, 235), pl. 107.
fabric. **Laniel.** 30 S. 1862. (**3**, 356.)*
hammock. **Leycester.** 16 O. 1878. II, **9**, 608 (**20**, 463), pl. 192.
rush. **Rovelli.** 30 Ap. 1860. (*Austria.*)*

TESTER. *See* Oil.

TEXTILE drier. **Rogeat.** 31 D. 1856. (**1**, 136.)* (*Sardinia.*)
fabric imitating in metals, etc. **Muratori.** 31 D. 1855. (**1**, 101.)* (*Sardinia.*)
material preparing. **Marshall.** 31 D. 1862. (**3**, 394.)*

THEATRE. **Richelmi e Badano.** 29 D. 1874. II, **5**, 642 (**15**, 251).
appliance. **Ronchi.** 30 Je. 1860. (**2**, 407.)* (*Sardinia.*)
curtain. **Società Tecnica d'ingegneria ed industria.** 11 Mr. 1882. II, **13**, 188 (**27**, 460).
— fire-proof. **von Falkenhausen.** 27 Ja. 1882. II, **13**, 60 (**27**, 332), pl. 15.
portable. **Casoni.** 31 Mr. 1863. (**3**, 452)*—Ex. I, **1**, 128 (**5**, 64).
THEODOLITE. **Franceschi.** 10 F. 1865. I, **2**, 51 (**6**, 35), pl. 16.
THERAPEUTIC air-pump. **Ascenzi.** 6 Mr. 1879. II, **10**, 107 (**21**, 307), pl. 33.
apparatus. **Leiter.** 31 D. 1880. II, **11**, 929 (**25**, 30), pl. 253.
THERMOCAUTERY. **Paquelin.** 26 F. 1876. II, **7**, 81 (**17**, 33), pl. 22.
Paquelin. 21 Ag. 1876. II, **7**, 415 (**17**, 367), pl. 104.
THERMO-ELECTRIC generator. **Clamond.** 16 D. 1878. II, **9**, 770 (**21**, 125), pl. 236.
pile. **Clamond.** 23 Ja. 1875. II, **6**, 30 (**15**, 298), pl. 6.
THERMOMETER alarm. **Murer.** 22 Je. 1881. II, **12**, 554 (**26**, 104), pl. 138.
and pyrometer, regulating and electric alarm. **Leroy ed al.** 22 Ja. 1867. I, **4**, 41 (**7**, 180), pl. 160.
electric. **Andoli.** 20 D. 1873. II, **4**, 597 (**14**, 77), pl. 165.
graduating. **Cruto.** 26 F. 1874. II, **5**, 76 (**14**, 185). Ad. **6**, 125 (**15**, 393).
THRASHING-MACHINE. **Abeni, Binetti, Guarneri e Ridoli.** 8 My. 1877. II, **8**, 247 (**18**, 237), pl. 70. Ad. **8**, 329 (**18**, 419), pl. 88.
Agostini fratelli. 23 My. 1881. II, **12**, 438 (**25**, 488), pls. 108, 109.
Barret ed al. 22 My. 1866. I, **3**, 136 (**6**, 462), pl. 41.
Bell e Roper. 14 N. 1870. II, **1**, 388 (**10**, 388), pl. 98.
Biggi. 12 Je. 1874. II, **5**, 277 (**14**, 386), pl. 66.
Biggi. 17 Ja. 1878. II, **9**, 8 (**19**, 363), pl. 2.
Boltri fratelli. 22 Jl. 1876. II, **7**, 376 (**17**, 328), pl. 92—Ex. **8**, 581 (**19**, 171); **10**, 655 (**22**, 355).
Brinsmeade. 16 Je. 1868. I, **5**, 204 (**8**, 274), pl. 58.
Cattaneo. 28 Mr. 1870. II, **1**, 118 (**10**, 118), pl. 29.
Cavaglià. 31 Mr. 1857. (**1**, 357.)* (*Sardinia.*)
Cheyère-Bauchart. 31 D. 1879. II, **10**, 863 (**23**, 63), pl. 245.
Cosimini. 27 Ap. 1869. I, **6**, 170 (**9**, 186).
Cosimini. 28 Ap. 1874. II, **5**, 198 (**14**, 307), pl. 39.
Cosimini e figli. 18 Ap. 1877. II, **8**, 206 (**18**, 296), pl. 54.
Coullon et Petitjean. 12 D. 1878. II, **9**, 761 (**21**, 106), pl. 235.
Cozzolino. 28 S. 1881. II, **12**, 864 (**26**, 414), pl. 229. Ad. **12**, 959 (**27**, 9), pl. 258.
Favier. 14 N. 1874. II, **5**, 560 (**15**, 169), pl. 133.
Girard. 8 Ag. 1876. II, **7**, 383 (**17**, 335), pl. 97.
Grimaldi. 19 Ap. 1872. II, **3**, 151 (**12**, 51), pls. 43, 44—Ex. **4**, 320 (**13**, 300). Ad. **5**, 142 (**14**, 251), pl. 29—Ex. **9**, 42 (**19**, 397). Ad. **9**, 43 (**19**, 398), pl. 9. **9**, 407 (**20**, 262), pl. 120.
Grimaldi. 11 Jl. 1876. II, **7**, 339 (**17**, 291), pl. 77. Ad. **7**, 365 (**17**, 317), pl. 91.
Grimaldi. 23 Je. 1879. II, **10**, 383 (**22**, 83), pl. 108.
Guadagno. 14 My. 1870. II, **1**, 197 (**10**, 197), pl. 47.
Guioni. 30 Je. 1855. (**1**, 38.)* (*Sardinia.*)
Guioni. 14 Jl. 1864. I, **1**, 337 (**5**, 274)—Ex. **1**, 338 (**5**, 275).
Helmsmüller. 27 Ap. 1876. II, **7**, 211 (**17**, 163), pl. 49.
Honer. 16 Jl. 1881. II, **12**, 654 (**26**, 204), pl. 168.
Logerat. 30 S. 1860. (**2**, 433.)* (*Sardinia.*)
Lusiani. 13 O. 1876. II, **7**, 490 (**17**, 443), pls. 123, 124.
Marshall Sons & Co. 11 My. 1881. II, **12**, 394 (**25**, 444), pl. 96.
Mayfarth e Comp. 15 Mr. 1881. II, **12**, 186 (**25**, 236), pl. 45.
de Morsier. 10 Je. 1880. II, **11**, 378 (**23**, 479), pl. 108.
Musci. 14 Je. 1877. II, **8**, 333 (**18**, 423), pl. 90.
Musson. 22 O. 1874. II, **5**, 517 (**15**, 126), pl. 120—Ex. **8**, 621 (**19**, 211), **9**, 653 (**21**, 8), **10**, 733 (**22**, 433).
Nesti e Magni. 26 Ag. 1871. II, **2**, 276 (**11**, 198), pl. 62.
Pattison. 20 My. 1871. II, **2**, 128 (**11**, 50), pl. 30.
Riva e Montefameglio. 30 O. 1880. II, **11**, 763 (**24**, 364), pl. 219.

THRASHING-MACHINE—continued.
Torti. 12 S. 1874. II, **5**, 442 (**15**, 51), pl. 104.
Trinchieri e Vaj. 31 D. 1856. (**1**, 331.)* (*Sardinia.*)
Vecchia. 12 Je. 1876. II, **7**, 276 (**17**, 228), pl. 63.
Wilson. 10 D. 1864. I, **1**, 519 (**5**, 456), pl. 84.
box. **Riley, Robey e Clench.** 14 My. 1870. II, **1**, 199 (**10**, 199), pl. 49.
feeder. **Commacini.** 29 Ap. 1868. I, **5**, 100 (**8**, 170), pl. 23.
— **Ruston.** 22 My. 1874. II, **5**, 236 (**14**, 345), pl. 52.
register. **Avanzi.** 31 Ag. 1876. II, **7**, 434 (**17**, 386), pl. 107.
— **Macchini fratelli.** 18 Je. 1875. II, **6**, 305 (**16**, 73), pl. 68
straw shaker. **Guioni.** 31 D. 1861. (**3**, 144.)*
transmission. **Fogliano fratelli.** 30 S. 1876. II, **7**, 468 (**17**, 420), pl. 117.
— **Pernot.** 30 D. 1876. II, **7**, 621 (**18**, 74), pl. 159. Ad. **11**, 332 (**23**, 433), pl. 93.
THREAD. **Loiseau.** 30 S. 1862. (**3**, 313.)*
Sutermeister. 21 D. 1880. II, **11**, 866 (**24**, 467).
bottom. **Niemack.** 30 O. 1880. II, **11**, 773 (**24**, 374).
cleaning machine. **de Ritter et Compagnie.** 4 S. 1875. II. **6**, 470 (**16**, 244), pl. 476.
— **See.** 29 Je. 1874. II, **5**, 318 (**14**, 427), pl. 75.
cotton wool. **Guibbaud.** 12 S. 1874. II, **5**, 445 (**15**, 54).
covering with silk. **Lacombe.** 29 S. 1877. II, **8**, 566 (**19**, 156), pl. 141.
dressing. **Hosemann.** 31 D. 1881. II, **12**, 1219 (**27**, 269).
drier. **Corron.** 25 Mr. 1878. II, **9**, 153 (**20**, 8), pl. 37.
— **Meldrum.** 28 S. 1880. II, **11**, 665 (**24**, 266), pl. 193.
— **Weisbach.** 29 Ja. 1877. II, **8**, 31 (**18**, 121), pl. 8.
felting machine. **Tavernier.** 23 Je. 1881. II, **12**, 561 (**26**, 111), pls. 140–142.
lustering. **Abder Halden et Seiler.** 31 Mr. 1864. (**4**, 196)*—Ex. I, **1**, 225 (**5**, 161).
manufacture. **Bollinger.** 14 Jl. 1870. II, **1**, 294 (**10**, 294)—Ex. **2**, 268 (**11**, 190).
— for fancy work. **Masson.** 30 S. 1855. (**1**, 92.)* (*Sardinia.*)
polishing machine. **Lanza.** 18 Jl. 1878. II, **9**, 451 (**20**, 306), pl. 129.
— **Società anonima per la filatura dei cascami di seta in Meina.** 19 Jl. 1875. II, **6**, 389 (**16**, 157), pl. 85.
sizing and warping. **Donisthorpe.** 31 D. 1861. (**3**, 178.)*
sizing machine. **Pandiani.** 10 Ap. 1879. II, **10**, 226 (**21**, 426), pl. 65.
skein washing and beating machine. **Gillet et ses fils.** 18 F. 1882. II, **13**, 114 (**27**, 386), pl. 33.
skeining. **Galbiati.** 18 S. 1877. II, **8**, 533 (**19**, 123), pl. 134. Ad. II, **9**, 598 (**20**, 453); **10**, 237 (**21**, 437).
talcose. **Cereghino.** 30 N. 1878. II, **9**, 737 (**21**, 92). Ad. **10**, 412 (**22**, 112).
treating with liquids or gases. **Heilmann.** 30 D. 1860. (**2**, 465.)* (*Sardinia.*)
vegetable silky. **Vautier.** 30 Je. 1861. (**3**, 59.)*
winding on thread. **Mouline.** 31 Ja. 1881. II, **12**, 42 (**25**, 92), pl. 9.
wool and cotton. **Riessberger.** 13 Jl. 1880. II, **11**, 485 (**24**, 86).
TICKET case. **Fornari.** 23 Mr. 1865. I, **2**, 90 (**6**, 74), pl. 24.
clasp. **Maccario e Morrisasco.** 27 S. 1878. II, **9**, 590 (**20**, 445), pl. 182.
railway. **Lombardi.** 15 My. 1879. II, **10**, 282 (**21**, 482).
register. **Lawson e Sirech.** 29 Ap. 1882. II, **13**, 374 (**28**, 146), pl. 100.
— **Maskelyne.** 25 O. 1881. II, **12**, 950 (**26**, 500), pl. 250.
— **Small.** 23 Je. 1874. II, **5**, 293 (**14**, 402), pl. 66. Ad. **5**, 381 (**14**, 490), pl. 88.
— punch. **Rimoldi.** 10 Ag. 1871. II, **2**, 258 (**11**, 180), pl. 56.
TIDE-MOTOR. **Barili.** 28 F. 1878. II, **9**, 111 (**19**, 466), pl. 30.
Devoto. 25 Ag. 1877. II, **8**, 507 (**19**, 97), pl. 129.
Guglielmini. 10 S. 1873. II, **4**, 427 (**13**, 407), pl. 114.
Moro. 7 My. 1868. I, **5**, 122 (**8**, 192), pl. 35.
TIE. *See* Bale, Railway cross-, Railway.

TILE. **Barbera.** 29 Ap. 1882. II, **13**, 376 (**28**, 148), pl. 93.
Brun. 27 Je. 1872. II, **3**, 273 (**12**, 173), pl. 74—Ex. **4**, 255 (**13**, 235).
Chizzolini. 10 Jl. 1869. I, **6**, 271 (**9**. 287), pl. 86.
Genti. 30 Je. 1856. (**1**, 210.)* (*Sardinia.*)
Sanchey. 30 S. 1860. (**2**, 412.)* (*Sardinia.*)
ceiling, tubular. **Abord.** 29 Ag. 1866. I, **3**, 196 (**7**, 22). Ad. **3**, 227 (**7**, 103).
glass. **Blanc.** 3 Mr. 1873. II, **4**, 108 (**13**, 88), pl. 28.
kiln. **Hawley.** 27 Je. 1872. II, **3**, 267 (**12**, 167), pl. 73.
— **Maccaferri.** 22 O. 1872. II, **3**, 472 (**12**, 372), pl. 115.
— **Novi.** 19 D. 1868. I, **5**, 411 (**8**, 482), pl. 121.
machine. **Boulet fratelli.** 15 Ap. 1874. II, **5**, 166 (**14**, 275), pls. 36, 37.
— **Chinaglia.** 24 Ap. 1870. II, **1**, 162 (**10**, 162), pl. 38.
— **Chinaglia.** 28 D. 1871. II, **2**, 464 (**11**, 386), pl. 97.
— **Facciolà.** 24 Mr. 1865. I, **2**, 74 (**6**, 58), pl. 15.
— **Ferrari.** 24 D. 1878. II, **9**, 786 (**21**, 141), pl. 238.
— **Hertel e Comp.** 9 Jl. 1869. I, **6**, 264 (**9**, 280), pl. 89.
— **Virth.** 1 Ag. 1852. 33.* (*Sardinia.*)
— **Welter e Weinknecht.** 30 My. 1874. II, **5**, 257 (**14**, 366), pl. 59.
manufacture. **Clayton, figlio e Howlett.** 28 N. 1873. II. **4**, 567 (**14**, 47), pl. 59.
— **Deléon.** 28 F. 1874. II, **5**, 75 (**14**, 184).
— **Larmanjat.** 3 N. 1864. I, **1**, 492 (**5**, 429), pl. 79.
— **Larmanjat.** 31 My. 1879. II, **10**, 335 (**22**, 35), pl. 91.
— **Mazzuchetti e Comp.** 31 Mr. 1856. (**1**, 130.) Ad. (**1**, 51.)* (*Sardinia.*)
— with wood, tan, sawdust, etc. **Germaix.** 4 N. 1865. I, **2**, 307 (**6**, 291).
metallic. **Pesendorfer's Erben.** 27 Ap. 1881. II, **12**, 366 (**25**, 416), pl. 80.
mold. **Argentero.** 30 Ap. 1878. II, **9**, 262 (**20**, 117), pl. 67.
roofing. **Agresti.** 1 Je. 1868. I, **5**, 161 (**8**, 131), pl. 42.
— **Argentero.** 14 N. 1874. II, **5**, 548 (**15**, 157), pl. 129.
— **Degli Albizi.** 4 Ja. 1869. I, **6**, 6 (**9**, 22), pl. 1—Ex. II, **6**, 6 (**15**, 274).
— **Gallie.** 29 D. 1864. I, **1**, 529 (**5**, 466), pl. 82—Ex. **2**, 312 (**6**, 296); **3**, 286 (**7**, 112). Ad. **3**, 292 (**7**, 118), pl. 81.
— **Gentilhomme.** 24 Ag. 1865. I, **2**, 228 (**6**, 212), pl. 59.
— **Puliti.** 14 O. 1870. II, **10**, 686 (**22**, 386), pl. 184.
— **Salomone ed al.** 9 Ag. 1867. I, **4**, 273 (**7**, 413), pl. 79.
— **Taylor.** 25 Je. 1866. I, **3**, 152 (**6**, 478), pl. 23.
— **Villain.** 25 O. 1871. II, **2**, 281 (**11**, 303), pl. 82.
— **Wade.** 9 Je. 1871. II, **2**, 168 (**11**, 90), pl. 38—Ex. **3**, 508 (**12**, 408).

TIMBER preserving. **Boucherie.** 31 D. 1855. (**1**, 122.)* (*Sardinia.*)
— **Vitali.** 30 Ja. 1865. I, **2**, 29 (**6**, 13).

TIN extracting from scrap. **Schulte.** 31 Mr. 1882. II, **13**, 292 (**28**, 64).
vessel joint. **Fauchers.** 31 D. 1881. II, **12**, 1200 (**27**, 350), pl. 337.

TINNING. **Tilley.** 1 F. 1872. II, **3**, 37 (**11**, 437).
lead pipe. **Chiazzari de Torres.** 24 S. 1875. II, **6**, 517 (**16**, 285), pl. 127.
— **Décoppet.** 30 S. 1858. (**2**, 127.)* (*Sardinia.*)

TIRE. *See also* Car wheel.
attaching machine. **Fagioli.** 22 S. 1870. II, **1**, 360 (**10**, 360), pl. 92.
fastening. **Glück.** 30 Je. 1881. II, **12**, 532 (**26**, 82), pl. 132.
— **Kesseler.** 15 F. 1879. II, **10**, 74 (**21**, 274), pl. 20—Ex. **11**, 922 (**25**, 23)—Ex. **11**, 914 (**25**, 15).
— **Melaun.** 20 Mr. 1880. II, **11**, 165 (**23**, 266), pl. 52.
— **Melaun.** 20 Mr. 1880. II, **11**, 166 (**23**, 267), pl. 52.
— **Rossi.** 20 F. 1878. II, **9**, 84 (**19**, 439), pl. 20.
— **Struve.** 16 N. 1878. II, **9**, 689 (**21**, 44), pl. 210.
— car-wheel. **Kaselowsky.** 31 Jl. 1877. II, **8**, 443 (**19**, 33), pl. 114.
manufacture, steel. **Compagnie des hauts fourneaux forges et aciéries de la marine et des chemins de fer.** 30 Ap. 1877. II, **8**, 234 (**18**, 324).
setting machine. **Colas.** 7 My. 1868. I, **5**, 119 (**8**, 189), pl. 29.
upsetting and soldering machine. **Lamur.** 19 Jl. 1865. I, **2**, 200 (**6**, 184), pl. 52.

TITANIUM iron alloy manufacture. **Compagnie anonyme des fonderies et forges de Terre-Noire, La Voulte et Bességes.** 23 Je. 1874. II, **5**, 299 (**14**, 408), pl. 72.
— **Compagnie des fonderies et forges de Terre-Noire, La Voulte et Bességes.** 15 Jl. 1874. II, **5**, 347 (**14**, 456).

TOBACCO compressing. **Lindsley.** 9 F. 1881. II, **12**, 66 (**25**, 116), pl. 19.
fermenting. **Wenderoth.** 8 F. 1878. II, **9**, 66 (**19**, 421), pl. 17. Ad. **10**, 695 (**22**, 395), pl. 185.
packing machine. **Winterwerber.** 25 Ja. 1873. II, **4**, 32 (**13**, 12), pl. 9.
pipe. **Berrens.** 30 O. 1880. II, **11**, 771 (**24**, 372), pl. 224.
— **Corsiglia e Garbolino.** 12 D. 1879. II, **10**, 823 (**23**, 23), pl. 230.
— **Hochapfel.** 15 N. 1866. I, **3**, 247 (**7**, 73), pl. 69.
— **Klawatschek.** 12 Je. 1869. I, **6**, 236 (**9**, 252), pl. 76.
— **Römisch.** 30 N. 1880. II, **11**, 852 (**24**, 453), pl. 249.
— **Santi.** 22 F. 1881. II, **12**, 83 (**25**, 133), pl. 2.
— **Strauss.** 30 Je. 1855. (**1**, 5.)* (*Sardinia.*)
— **Townsend.** 27 Je. 1876. II, **7**, 318 (**17**, 270), pl. 74.
— holder. **Gialdroni.** 15 Mr. 1881. II, **12**, 180 (**25**, 230), pl. 41.
— nicotine absorber. **Blanchard.** 19 Ja. 1873. II, **4**, 30 (**13**, 10), pl. 2. Ad. **4**, 330 (**13**, 310), pl. 85—Ex. **6**, 683 (**16**, 451); **9**, 833 (**21**, 188).
— rammer. **Fürst.** 7 F. 1873. II, **4**, 61 (**13**, 41), pl. 16.
substitute. **Buisson.** 23 Je. 1866. I, **3**, 148 (**6**, 474).
— **Ramel.** 4 Mr. 1870. II, **1**, 81 (**10**, 81)—Ex. **7**, 127 (**17**, 79).
treating. **Messmer.** 25 Mr. 1878. II, **9**, 155 (**20**, 10), pl. 40.
— **Società anonima per la Regia Cointeressata dei Tabacchi.** 30 Ag. 1879. II, **10**, 582 (**22**, 282), pl. 164.

TOMBSTONE, glass. **Mella.** 20 Mr. 1882. II, **13**, 208 (**27**, 480), pl. 55.

TOOL. *See also* Brick manufacture.
combination. **Baille.** 5 My. 1874. II, **5**, 206 (**14**, 315), pl. 44.
handle fastening. **Berghaus.** 14 My. 1880. II, **11**, 319 (**23**, 420), pl. 88.
holder. **Baville.** 28 N. 1872. II, **3**, 520 (**12**, 420), pl. 127. Ad. **6**, 142 (**15**, 410), pl. 28.
— **Belvallete.** 9 F. 1867. I, **4**, 57 (**7**, 196), pl. 15—Ex. II, **2**, 32 (**10**, 454).
— **Pecora.** 31 Mr. 1859. (**2**, 209.)* (*Sardinia*)—Ex. I, **2**, 125 (**6**, 109).

TOOTHPICK. **Cicotti.** 20 O. 1881. II, **12**, 931 (**26**, 481).

TOP. *See* Chimney.

TORPEDO. **Coda.** 14 F. 1873. II, **4**, 74 (**13**, 54), pl. 17. Ad. **4**, 497 (**13**, 477), pls. 139–141; **7**, 121 (**17**, 73)—Ex. **10**, 176 (**21**, 376).
Giese. 31 D. 1878. II, **9**, 817 (**21**, 172), pl. 241.
Mallory. 17 N. 1881. II, **12**, 1019 (**27**, 69), pl. 278.
McEvoy. 27 Ag. 1879. II, **10**, 566 (**22**, 266), pl. 158.
McLean e Coloney. 18 Mr. 1879. II, **10**, 143 (**21**, 343), pl. 50.
boat. **Hotchkiss.** 13 Ag. 1880. II, **11**, 563 (**24**, 164), pls. 156, 157.
— **Lagane.** 4 Je. 1881. II, **12**, 499 (**26**, 49), pl. 124.
— **Lay.** 30 Ap. 1878. II, **9**, 256 (**20**, 111), pls. 68, 69. Ad. **10**, 117 (**21**, 317), pls. 38–42—Ex. **10**, 371 (**22**, 71).
— **Mallory.** 20 F. 1880. II, **11**, 72 (**23**, 173), pl. 23.
operating. **McEvoy.** 8 F. 1882. II, **13**, 91 (**27**, 363).
projecting. **Brotherhood.** 26 N. 1880. II, **11**, 833 (**24**, 434), pl. 244.
— **Johnston, Johnston e Johnston.** 15 Ap. 1882. II, **13**, 327 (**28**, 99), pl. 87.
— submarine. **Brotherhood.** 21 D. 1881. II, **12**, 1141 (**27**, 191), pl. 322.

TORTOISE-SHELL cutting machine. **Cerutti e Grasso.** 14 N. 1881. II, **12**, 1012 (**27**, 62), pl. 273.

TOW brake. **Hartog.** 31 Ja. 1876. II, **7**, 47 (**16**, 499), pl. 12.
treating. **Ferrero.** 28 Ap. 1874. II, **5**, 195 (**14**, 304).
— **Galbiati.** 30 Je. 1863. (**3**, 475.)*

TOY. *See also* Optic.
automaton. **Cardinali.** 18 Je. 1879. II, **10**, 370 (**22** 70), pl. 107—Ex. **12**, 567 (**26**, 117).
— **Goodwin.** 1 D. 1868. I, **5**, 390 (**8**, 461), pl. 116.

TOY—continued.
boat. **Fournier.** 18 Je. 1867. I, **4**, 197 (**7**, 337), pl. 52.
gun. **Magnan.** 17 N. 1875. II, **6**, 601 (**16**, 369), pl. 145.
— and bayonet for drilling in schools. **Pracchi.** 19 Jl. 1865. I, **2**, 199 (**6**, 183), pl. 52.
optic. **Biondi.** 5 My. 1870. II, **1**, 56 (**10**, 56), pl. 9.
TRACK laying vehicle. **Bolla.** 1 Je. 1868. I, **5**, 184 (**8**, 254), pl. 53. Ad. **6**, 477 (**9**, 493), pl. 151.
laying wagon. **Tailloux.** 29 Jl. 1874. II, **5**, 354 (**14**, 463), pl. 82.
TRACTION. **Arnoux.** 30 S. 1855. (**1**, 35.)* (*Sardinia.*)
Bordino. 30 S. 1859. (**2**, 259.)* (*Sardinia.*)
Edwards. 30 S. 1861. (**3**, 103.)*
chain. **Maklakoff.** 30 Je. 1862. (**3**, 258.)*
engine. **Archieri.** 22 Jl. 1867. I, **4**, 241 (**7**, 381), pls. 75, 76.
— **Bernier.** 31 Mr. 1865. I, **2**, 100 (**6**, 84), pl. 85.
— **Bollée.** 4 N. 1880. II, **11**, 781 (**24**, 382), pl. 226.
— **Cail.** 23 Jl. 1868. I, **5**, 255 (**8**, 325), pl. 73. Ad. **6**, 116 (**9**, 132), pl. 40—Ex. II, **2**, 228 (**11**, 150).
— **Chaine.** 7 F. 1876. II, **7**, 61 (**17**, 13), pl. 15. Ad. **7**, 64 (**17**, 16), pl. 17.
— **Ferrandi.** 4 Ag. 1872. II, **3**, 344 (**12**, 244), pl. 91.
— **Hughes.** 4 My. 1876. II, **7**, 222 (**17**, 174), pl. 53.
— **Lossada.** 22 Jl. 1867. I, **4**, 228 (**7**, 368), pl. 73. Ad. **5**, 129 (**8**, 199), pl. 29.
— **Pierret et Schweizer.** 31 D. 1863. (**4**, 168.)*
— **Rattazzi.** 18 Ap. 1876. II, **7**, 194 (**17**, 146), pl. 44.
— **Rocca.** 22 F. 1867. I, **4**, 69 (**7**, 208), pl. 23.
— **Ronca.** 23 My. 1865. I, **2**, 136 (**6**, 120), pl. 30.
— **Rousseau.** 2 S. 1868. I, **5**, 310 (**8**, 380), pl. 92.
— **Russo.** 18 Jl. 1871. II, **2**, 225 (**11**, 147), pl. 50.
— **Sablier.** 31 D. 1859. (**2**, 282.)* (*Sardinia.*)
— **Samuelson.** 9 F. 1874. II, **5**, 45 (**14**, 154), pl. 8—Ex. **8**, 198 (**18**, 288).
— wheel. **Thomson.** 1 F. 1869. I, **6**, 33 (**9**, 49), pl. 14.
road. **Agudio.** 30 D. 1856. (**1**, 285.)* (*Sardinia.*)
— **Agudio.** 30 N. 1873. II, **4**, 579 (**14**, 59), pl. 160. Ad. **5**, 273 (**14**, 382), pl. 65—Ex. **10**, 874 (**23**, 74).
— **Cagliari.** 30 Je. 1863. (**3**, 487.)*
— **Devooght.** 21 D. 1881. II, **12**, 1121 (**27**, 171), pls. 311–313.
— **Du Mesnil.** 28 F. 1878. II, **9**, 108 (**19**, 463).
— **Eppelsheimer.** 8 F. 1878. II, **9**, 57 (**19**, 412), pls. 14, 15. Ad. **10**, 420 (**22**, 120), pls, 121–123.
— **Finet.** 12 Mr. 1866. I, **3**, 58 (**6**, 384), pls. 17, 18.
— **Obach.** 25 My. 1880. II, **11**, 344 (**23**, 445), pl. 98.
— **Sigl.** 30 S. 1873. II, **4**, 479 (**13**, 459), pl. 124.
— **Sigl.** 10 N. 1873. II, **4**, 545 (**14**, 26), pl. 152.
— for mines. **Bourelly.** 6 My. 1867. I, **4**, 151 (**7**, 291), pl. 48.
for road building. **Custodi.** 15 My. 1864. I, **1**, 241 (**5**, 177), pl. 21.
— inclined plane. **Ferretti.** 15 O. 1873. II, **4**, 503 (**13**, 483), pl. 138.
TRAIN. *See* Circus wagon, Railway.
TRANSMISSION. *See also* Hydraulic, Power, Sewing-machine, Thrashing-machine.
Clara. 31 Mr. 1879. II, **10**, 198 (**21**, 398), pl. 59. Ad. **10**, 838 (**23**, 38), pls. 239, 240.
Dennis, Samper e Valenzuela. 15 S. 1879. II, **10**, 603 (**22**, 303), pl. 168. Ad. **12**, 132 (**25**, 182), pl. 33; **12**, 971 (**27**, 21), pl. 257.
Forlanini. 31 Mr. 1881. II, **12**, 278 (**25**, 328), pl. 67.
Leveaux. 29 Ag. 1881. II, **12**, 773 (**26**, 323), pls. 202, 203.
Rollet et Comp. 10 Ap. 1879. II, **10**, 201 (**21**, 401), pl. 61.
Samper. 25 Ap. 1882. II, **13**, 356 (**28**, 128), pl. 93.
pneumatic. **Champin.** 14 Ja. 1882. II, **13**, 20 (**27**, 292).
TRANSPORTATION. **Engel.** 9 N. 1876. II, **7**, 528 (**17**, 481), pl. 133.
TRANSPORTING food. **Chambon.** 12 Je. 1876. II, **7**, 274 (**17**, 226).
granular substances. **Lawton e Gordon.** 14 O. 1873. II, **4**, 499 (**13**, 479), pl. 141.
TRAP. *See* Ant, Cricket, Fish, Fly, Insect, Sewer, Steam, Water closet.
TRAVELING bag clasp. **Appleton.** 10 Je. 1880. II, **11**, 377 (**23**, 478), pl. 107.
case. **Münch.** 20 D. 1879. II, **10**, 840 (**23**, 40), pl. 235.
TREADLE. **Gaudini.** 30 Mr. 1878. II, **9**, 190 (**20**, 45), pl. 49.
movement. **Gaudini.** 30 D. 1878. II, **9**, 811 (**21**, 166), pl. 240. Ad. **10**, 623 (**22**, 323)—Ex. **10**, 679 (**22**, 379).
TRELLIS machine. **Pictet.** 17 Je. 1872. II, **3**, 248 (**12**, 148), pl. 67. Ad. **5**, 651 (**15**, 200), pl. 156—Ex. **9**, 436 (**20**, 291).
TRIGONOMETER. **Balestrieri.** 6 Ap. 1875. II, **6**, 154 (**15**, 422), pl. 31.
TROMBONE. **Santucci.** 30 S. 1862. (**3**, 308.)*
TROWSERS-PROTECTOR. **Daniele.** 31 Mr. 1879. II, **10**, 199 (**21**, 399), pl. 60.
Ligabue. 26 Je. 1880. II, **11**, 416 (**25**, 17), pl. 125.
Milders. 29 Mr. 1882. II, **13**, 247 (**28**, 19), pl. 61.
TRUCK. *See also* Car, Carriage, Locomotive bogie.
railway. **Agudio.** 12 N. 1866. I, **3**, 60 (**6**, 386), pl. 20.
TRUMPET. **Pelitti.** 31 Mr. 1864. (**4**, 182.)*
Ruggiero. 22 F. 1881. II, **12**, 90 (**25**, 140), pl. 21.
Santucci. 30 Je. 1862. (**3**, 263.)*
bass. **Schoenstein.** 12 Ja. 1872. II, **3**, 7 (**11**, 407), pl. 2.
TRUNK. **Franzi.** 9 F. 1874. II, **5**, 46 (**14**, 155), pl. 7.
Tavarozzi. 20 Je. 1873. II, **4**, 288 (**13**, 268), pl. 78—Ex. **5**, 325 (**14**, 434).
bed-table-washstand. **Stiebel.** 20 Ag. 1880. II, **11**, 580 (**24**, 181), pl. 157.
extension. **Cattaneo.** 27 S. 1879. II, **10**, 646 (**22**, 346), pl. 177.
table. **Lué ed al.** 13 Mr. 1868. I, **5**, 31 (**8**, 101), pl. 11.
silk transporting. **Inversini.** 28 F. 1878. II, **9**, 98 (**19**, 453), pl. 27.
TRUSS and supporter. **Camel.** 17 F. 1869. I, **6**, 55 (**9**, 71), pl. 13.
hernia. **Arthur.** 17 Jl. 1868. I, **5**, 226 (**8**, 296), pl. 67.
— **Bonilauri.** 30 Je. 1856. (**1**, 205.)* (*Sardinia.*)
— **Declarenzi.** 21 Mr. 1877. II, **8**, 134 (**18**, 224), pl. 36.
— **Edel.** 22 Jl. 1876. II, **7**, 362 (**17**, 314), pl. 90.
— **Ferrero.** 31 D. 1859. (**2**, 299.)* (*Sardinia.*)
— **Marchisio.** 17 S. 1875. II, **6**, 483 (**16**, 251), pl. 114.
— **Miquel.** 30 S. 1859. (**2**, 258.)* (*Sardinia.*)
— **Mollet.** 28 Mr. 1875. II, **6**, 126 (**15**, 394), pl. 25.
— **Schoevery.** 30 Je. 1873. II, **4**, 309 (**13**, 289), pl. 79.
— **Seidel.** 16 My. 1876. II, **7**, 229 (**17**, 181), pl. 54.
— **Zurico.** 16 O. 1871. II, **2**, 346 (**11**, 268), pl. 74.
TUB. *See* Bath.
TUBA, bass. **Santucci.** 22 F. 1882. II, **13**, 119 (**27**, 391), pl. 35.
TUBE. *See also* Cop, Glass, Heater, Pneumatic, Pneumatic signal, Sheet-iron, Speaking, Spinning twisting, Steam boiler, Well.
asphalted. **Jaloureau.** 31 Mr. 1859. (**2**, 195.)* (*Sardinia.*)
cutter. **Zsigmondy.** 30 Je. 1880. II, **11**, 450 (**24**, 51), pl. 130.
flexible. **Sommeiller.** 30 S. 1857. (**1**, 464.)* (*Sardinia.*)
TUG. **Fossa.** 30 S. 1860. (**2**, 347.)* (*Sardinia.*)
TUMBLER filter. **Kalmus.** 2 Mr. 1881. II, **12**, 144 (**25**, 194), pl. 32.
TUNER. **Delsarte.** 30 Je. 1856. (**1**, 190.)* (*Sardinia.*)
Delsarte. 30 S. 1857. (**1**, 481.)* (*Sardinia.*)
TUNGSTEN iron alloy manufacture. **Compagnie anonyme des fonderies et forges de Terre-Noire, La Voulte et Bességes.** 23 Je. 1874. II, **5**, 299 (**14**, 408), pl. 72.
— **Compagnie des fonderies et forges de Terre-Noire, La Voulte et Bessèges.** 15 Jl. 1874. II, **5**, 347 (**14**, 456).
TUNING fork. **Camiolo.** 21 S. 1872. II, **3**, 432 (**12**, 332). Ad. **4**. 159 (**13**, 139).
guide. **Camiolo.** 29 Ja. 1877. II, **8**, 37 (**18**, 127), pl. 9. Ad. **8**, 635 (**19**, 225), pl. 164—Ex. **9**, 227 (**20**, 82).
melodeons. **Procopé.** 30 Mr. 1873. II, **4**, 160 (**13**, 140), pl. 45.
TURPENTINE extracting from pine. **Pastorelly.** 21 Mr. 1865. I, **2**, 75 (**6**, 59), pl. 12—Ex. **3**, 93 (**6**, 419).
purifying apparatus. **Col.** 6 D. 1881. II, **12**, 1074 (**27**, 124), pl. 293.
TUYERE. **Morel et Renis.** 31 My. 1878. II, **9**, 339 (**20**, 194), pl. 94.
Morgan. 13 Ja. 1875. II, **6**, 13 (**15**, 281), pl. 3.

TWISTING MACHINE. **Good.** 9 N. 1876. II, **7**, 525 (**17**, 478), pl. 133.
Martin. 25 My. 1878. II, **9**, 329 (**20**, 184), pl. 89—Ex. **12**, 409 (**25**, 459).
TYPE. **Bartlett e Murray.** 12 Je. 1876. II, **7**, 279 (**17**, 231), pl. 65—Ex. **8**, 395 (**18**, 485).
Brassart fratelli. 9 N. 1872. II, **3**, 494 (**12**, 394).
case. **Weiss.** 31 O. 1881. II, **12**, 974 (**27**, 24), pl. 263.
composing and distributing machine. **Brackelsberg.** 6 Je. 1881. II, **12**, 512 (**26**, 62), pl. 129.
— **Fischer e Von Langen.** 5 N. 1879. II, **10**, 723 (**22**, 423), pls. 197, 198.
— **Kastenbein.** 6 Jl. 1877. II, **8**, 375 (**18**, 465), pls. 100, 101.
— **Pollack.** 21 Ag. 1876. II, **7**, 413 (**17**, 365), pl. 104.
composing case. **de Calonne.** 10 Ag. 1877. II, **8**, 469 (**19**, 59), pl. 119. Ad. **10**, 15 (**21**, 215), pl. 4.
composing frame. **Landi.** 18 Jl. 1870. II, **1**, 298 (**10**, 298), pl. 74.
composing machine. **Paige.** 14 D. 1872. II, **3**, 546 (**12**, 446), pl. 132.
— **Slingerland.** 30 Je. 1870. II, **1**, 273 (**10**, 273), pls. 70, 71.
— **Winder.** 30 Ap. 1875. II, **6**, 205 (**15**, 473), pl. 42.
cutting machine. **Cunningham.** 30 S. 1871. II, **2**, 335 (**11**, 257), pl. 72—Ex. **3**, 444 (**12**, 344).
depressed. **Scala.** 30 N. 1870. II, **1**, 398 (**10**, 298).
distributing machine. **Alden ed al.** 31 O. 1865. I, **2**, 299 (**6**, 283), pls. 86–91.
— **Slingerland.** 22 Ap. 1871. II, **2**, 108 (**11**, 30), pls. 20–23.
— **Winder.** 4 S. 1875. II, **6**, 464 (**16**, 232), pl. 107.
form. **Datterer.** 12 My. 1879. II, **10**, 271 (**21**, 471), pl. 76.
— lock. **Funemann.** 18 Mr. 1879. II, **10**, 115 (**21**, 315), pl. 34.
founding. **Fleming.** 6 S. 1880. II, **11**, 629 (**24**, 230), pl. 180.
— **Trippa.** 24 D. 1866. I, **3**, 310 (**7**, 136), pl. 88.
lithographic. **Loire.** 31 Jl. 1869. I, **6**, 307 (**9**, 323).
manufacture. **Boniowski.** 30 S. 1861. (**3**, 123.)*
metal. **Villa, Salfati e Belforte.** 28 F. 1882. II, **13**, 149 (**27**, 421).
— border. **Melin.** 23 Ag. 1865. I, **2**, 223 (**6**, 207).
music. **Giammartini.** 11 Mr. 1869. I, **6**, 98 (**9**, 114).
— **Guidi.** 25 O. 1865. I, **2**, 280 (**6**, 264), pl. 78.
raising machine. **Negroni.** 11 Ja. 1882. II, **13**, 11 (**27**, 283), pl. 5.
setter and type writer. **Thoma.** 30 S. 1880. II, **11**, 682 (**24**, 283), pl. 199—Ex. **12**, 940 (**26**, 490).
setting implements. **Lavater e Levy.** 19 Je. 1878. II, **9**, 396 (**20**, 251), pl. 115.
setting wedge. **Hempel e Dingens.** 20 My. 1880. II, **11**, 329 (**23**, 430), pl. 92.
TYPEWRITER. **Fontaine.** 25 Jl. 1869. I, **6**, 296 (**9**, 312), pl. 100.
— **Lamonica.** 18 N. 1879. II, **10**, 749 (**22**, 449), pl. 203.
— **Maggi.** 31 Jl. 1880. II, **11**, 514 (**24**, 115)—Ex. **12**, 835 (**26**, 385).
— **Maggi e Brassart.** 8 Ap. 1872. II, **3**, 125 (**12**, 25), pl. 38.
— **Malling.** 31 Ag. 1878. II, **9**, 544 (**20**, 399), pls. 167, 168.
— **Malling, Hansen e Jürgenson.** 7 Jl. 1873. II, **4**, 322 (**13**, 302), pl. 85.
— **Mazzei.** 27 S. 1879. II, **10**, 612 (**22**, 312), pls. 172, 173.
— **Michela e de Petro.** 4 My. 1876. II, **7**, 216 (**17**, 168), pl. 51. Ad. **8**, 88 (**18**, 178), pl. 23.
— **Michela, de Petro e Michela.** 25 Ja. 1878. II, **9**, 39 (**19**, 394), pl. 10—Ex. **11**, 205 (**23**, 306).
— **Ravizza.** 30 S. 1855. (**1**, 73.)* (*Sardinia.*)
— **Thoma.** 30 S. 1880. II, **11**, 682 (**24**, 283), pl. 199—Ex. **12**, 940 (**26**, 490).
UMBRELLA. *See also* Cane.
Calvi. 22 My. 1874. II, **5**, 246 (**14**, 355), pl. 55.
Davis. 25 O. 1881. II, **12**, 946 (**26**, 496), pl. 251.
Falvo. 26 N. 1881. II, **12**, 1042 (**27**, 92), pl. 284.
Farradesche. 21 D. 1880. II, **11**, 883 (**24**, 484), pl. 253.
Fayol. 28 Mr. 1873. II, **4**, 149 (**13**, 129), pl. 42.
Forster. 16 O. 1880. II, **11**, 720 (**24**, 321), pl. 211.
Gilardini. 28 F. 1874. II, **5**, 71 (**14**, 180), pl. 16.

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Gilardini. 11 Ap. 1874. II, **5**, 152 (**14**, 261), pl. 33.
Gilardini. 31 D. 1877. II, **8**, 756 (**19**, 346), pl. 201.
Gilardini. 9 F. 1881. II, **12**, 76 (**25**, 126), pl. 21.
Motta. 26 Jl. 1880. II, **11**, 510 (**24**, 111), pl. 138.
Neumeister. 21 Ap. 1882. II, **13**, 344 (**28**, 116), pl. 92.
Richelmi. 30 Mr. 1874. II, **5**, 139 (**14**, 248), pl. 32.
Righini e figlio. 22 F. 1879. II, **10**, 82 (**21**, 282), pl. 20.
Righini fratelli. 6 S. 1877. II, **8**, 521 (**19**, 111), pl. 131.
Weber e Roy. 22 Mr. 1873. II, **4**, 135 (**13**, 143), pl. 37.
brace joint. **Farradesche.** 24 S. 1881. II, **12**, 856 (**26**, 406), pl. 222.
cane. **Meurgey et Cie.** 30 S. 1880. II, **11**, 671 (**24**, 272), pl. 194.
— **Righini fratelli.** 11 Jl. 1871. II, **2**, 218 (**11**, 146), pl. 48.
cover. **Gilardini.** 30 S. 1858. (**2**, 119.)* (*Sardinia.*)
fan. **Giordano.** 27 Ag. 1874. II, **5**, 421 (**15**, 30), pl. 98.
fastening. **Montalbetti.** 12 D. 1872. II, **3**, 536 (**12**, 436), pl. 130.
— **Montalbetti.** 8 Je. 1878. II, **9**, 352 (**20**, 207), pl. 97.
handle. **Gonfalonieri.** 30 Ja. 1882. II, **13**, 66 (**27**, 338), pl. 17.
mounting. **Teste père, fils et Pichat.** 14 Jl. 1877. II, **8**, 393 (**18**, 483), pl. 104.
pocket. **Righini fratelli.** 28 D. 1871. II, **2**, 462 (**11**, 384), pl. 97.
UNDERGARMENT. **Benger Söhne.** 29 Ag. 1881. II, **12**, 777 (**26**, 327), pl. 199.
UPHOLSTERY. **Toldi.** 22 My. 1874. II, **5**, 241 (**14**, 350), pl. 54.
seaweed. **Loire.** 10 O. 1877. II, **8**, 584 (**19**, 174).
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Della Torre. 20 N. 1871. II, **2**, 417 (**11**, 339), pl. 90.
Société Parisienne de publicité. 27 Ag. 1880. II, **11**, 582 (**24**, 183), pl. 166.
VACCINE tube. **Margotta.** 12 Ap. 1876. II, **7**, 177 (**17**, 129), pl. 40.
VACUUM apparatus. **Sicard.** 15 D. 1873. II, **4**, 589 (**14**, 69), pl. 163.
treatment. **Seyberlich.** 13 Ag. 1880. II, **11**, 570 (**24**, 171), pl. 159.
VAGINAL injector. **Audouin.** 4 Jl. 1878. II, **9**, 413 (**20**, 268), pl. 122—Ex. **10**, 430 (**22**, 130); **12**, 147 (**25**, 197).
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Fochi. 31 Mr. 1861. (**2**, 500)*—Ex. I, **1**, 150 (**5**, 86); **2**, 107 (**6**, 91).
Giffard. 20 Ap. 1872. II, **3**, 167 (**12**, 67), pl. 48.
Girard. 17 Je. 1870. II, **1**, 246 (**10**, 246), pls. 61, 62.
Knaust. 11 F. 1875. II, **6**, 61 (**15**, 329), pl. 13.
Mallinson. 17 N. 1875. II, **6**, 592 (**16**, 360), pl. 142.
Maresca. 8 Jl. 1878. II, **9**, 433 (**20**, 288), pl. 125.
Peet. 17 Ja. 1874. II, **5**, 18 (**14**, 127), pl. 2—Ex. **8**, 90 (**18**, 180); **11**, 196 (**23**, 297).
Tylor. 29 O. 1872. II, **3**, 487 (**12**, 387), pl. 118.
Valle. 8 My. 1869. I, **6**, 177 (**9**, 193), pl. 49.
gear. **Brown.** 21 O. 1875. II, **6**, 557 (**16**, 325), pls. 133–135.
— **Carels frères.** 10 My. 1880. II, **11**, 287 (**23**, 388), pl. 84.
— **Cario.** 25 Mr. 1876. II, **7**, 139 (**17**, 91), pl. 31.
— **Collmann.** 5 S. 1878. II, **9**, 548 (**20**, 403), pl. 170—Ex. **10**, 635 (**22**, 335).
— **Collmann.** 23 Mr. 1882. II, **13**, 230 (**28**, 2), pls. 65, 66.
— **Escher Wyss et Cie.** 23 Je. 1879. II, **10**, 392 (**22**, 92), pl. 115.
— **Henrion.** 4 My. 1870. II, **1**, 194 (**10**, 194), pl. 46.
— **Holt.** 28 Ag. 1872. II, **3**, 384 (**12**, 284), pl. 97—Ex. **6**, 538 (**16**, 306).
— **Menck et Hambrock.** 29 Ja. 1881. II, **12**, 33 (**25**, 83), pl. 8.
— **Mengotti.** 19 N. 1873. II, **4**, 560 (**14**, 40), pl. 153.
— **Müller e Renzsch.** 1 My. 1872. II, **3**, 190 (**12**, 90), pl. 54.
— **Nathan.** 6 Je. 1881. II, **12**, 510 (**26**, 60), pl. 128.
— **Starke.** 15 D. 1877. II, **8**, 722 (**19**, 312), pls. 189–194—Ex. **9**, 790 (**21**, 145).
— **Sulzer.** 21 O. 1875. II, **6**, 559 (**16**, 327), pls. 136–139.
— locomotive. **Roy et la Compagnie de Fives Lille.** 25 Ap. 1878. II, **9**, 245 (**20**, 100), pl. 63.

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pump. **Bury.** 20 Je. 1881. II, **12**, 537 (**26**, 87), pl. 133.
— **Dehne.** 4 S. 1880. II, **11**, 601 (**24**, 202), pl. 171.
— **Florentin.** 11 My. 1881. II, **12**, 395 (**25**, 445), pl. 97.
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rotary slide. **Brotherhood.** 31 Ja. 1882. II, **13**, 75 (**27**, 347), pls. 23, 24.
rotary steam. **Fava.** 28 N. 1868. I, **5**, 389 (**8**, 460), pl. 115.
safety. **Foster.** 15 Mr. 1866. I, **3**, 77 (**6**, 403), pl. 25.
— **Gill.** 30 N. 1878. II, **9**, 745 (**21**, 100), pl. 226.
— **Maurel e Truel.** 9 Ap. 1877. II, **8**, 179 (**18**, 269), pl. 49. Ad. **10**, 400 (**22**, 100), pl. 117.
— **Saint-Pierre.** 20 Ja. 1880. II, **11**, 311 (**23**, 132), pl. 7.
sewer. **Pastore.** 27 N. 1871. II, **2**, 421 (**11**, 343), pl. 86.
slide. **Allen.** 31 Mr. 1863. (**3**, 49J.)*
— **André.** 14 Ag. 1874. II, **5**, 395 (**15**, 4), pl. 90.
— **d'Auria.** 3 Mr. 1873. II, **4**, 107 (**13**, 87), pl. 31.
— **Bristol.** 7 O. 1865. I, **2**, 272 (**6**, 256), pl. 78.
— **Burlock.** 9 Mr. 1872. II, **3**, 54 (**11**, 454), pl. 16.
— **Fava.** 5 Ag. 1871. II, **2**, 239 (**11**, 161), pl. 53.
— **Forquenot.** 20 N. 1874. II, **5**, 569 (**15**, 178), pl. 133.
— **Harrison.** 14 My. 1880. II, **11**, 301 (**23**, 402), pl. 88—Ex. **12**, 171 (**25**, 221).
— **Kitson e Carr.** 14 O. 1873. II, **4**, 500 (**13**, 480), pl. 136.
— **Manley.** 15 N. 1866. I, **3**, 253 (**7**, 79), pl. 66.
— **Maresca.** 20 Je. 1875. II, **6**, 326 (**16**, 94), pl. 72—Ex. **7**, 324 (**17**, 276).
— **Maresca.** 18 N. 1879. II, **10**, 761 (**22**, 461), pl. 210.
— **Maresca.** 6 S. 1880. II, **11**, 628 (**24**, 229), pl. 174—Ex. **12**, 831 (**26**, 381).
— **Maresca.** 15 Mr. 1881. II, **12**, 200 (**25**, 250), pl. 45.
— **Moy.** 17 Ja. 1878. II, **8**, 19 (**19**, 374), pl. 6.
— **Papa.** 9 N. 1881. II, **12**, 986 (**27**, 36), pl. 266.
— **Ruthel.** 30 D. 1876. II, **7**, 633 (**18**, 86), pl. 159.
— **Sonntag.** 21 D. 1881. II, **12**, 1123 (**27**, 173), pl. 310. Ad. **13**, 329 (**28**, 101), pl. 97.
— **Thevenet.** 19 Ap. 1867. I, **4**, 123 (**7**, 263), pl. 40.
— oscillating. **Fava.** 31 Jl. 1873. II, **4**, 373 (**13**, 353), pl. 98.
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steam-actuated. **Farcot.** 31 Ag. 1868. I, **5**, 306 (**8**, 376), pls. 90, 91. Ad. **6**, 475 (**9**, 491), pl. 151—Ex. II, **5**, 333 (**14**, 442).
— **Farcot et ses fils e Stapfer de Duclos.** 22 D. 1875. II, **6**, 661 (**16**, 429), pls. 165-168. Ad. **7**, 182 (**17**, 134), pl. 42; **9**, 27 (**19**, 382), pl. 9.
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water distribution. **Peet.** 24 Ja. 1870. II, **1**, 22 (**10**, 22), pl. 4—Ex. **2**, 34 (**10**, 456).
VAPOR condenser. **Nolden.** 19 Ag. 1871. II, **2**, 265 (**11**, 187), pl. 58.
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engine, petroleum. **Aloisi.** 7 Jl. 1869. I, **6**, 252 (**9**, 268), pl. 80.
VARNISH. **Alisi.** 23 Je. 1871. II, **2**, 188 (**11**, 110).
Del Bubba. 20 Ja. 1874. II, **5**, 28 (**14**, 137).
Geleazzi. 30 S. 1857. (**1**, 454.)* (*Sardinia.*)
Migliorato. 7 My. 1875. II, **6**, 220 (**15**, 488).
Zingler. 8 Je. 1875. II, **6**, 300 (**16**, 68).
bituminous. **Barthelemy.** 23 Ap. 1878. II, **9**, 222 (**20**, 77).
manufacture. **Gray.** 23 Ap. 1880. II, **11**, 242 (**23**, 343), pl. 71.
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submarine. **Leoni.** 18 Ag. 1873. II, **4**, 384 (**13**, 354).
— **Pellen.** 30 Je. 1863. (**3**, 483)*—Ex. I, **3**, 203, 311 (**7**, 29, 137).
VARNISHING. **Ihlee e Horne.** 10 F. 1881. II, **12**, 81 (**25**, 131).
fabrics. **Grimaud.** 31 D. 1855. (**1**, 97.)* (*Sardinia*)
VAT. **Puiraveau.** 12 O. 1881. II, **12**, 885 (**26**, 435), pl. 236.
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VEHICLE. **Taverna.** 21 S. 1855. (**1**, 95 or 96.)* (*Sardinia.*)
propelling. **Russo.** 12 Je. 1864. I, **1**, 305 (**5**, 241), pl. 31.
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de Canibus. 22 F. 1879. II, **10**, 83 (**21**, 283), pl. 24.
Carrera. 4 Mr. 1869. I, **6**, 82 (**9**, 98), pl. 23.
Carrera. 20 Ap. 1877. II, **8**, 218 (**18**, 308), pl. 60. Ad. **10**, 834 (**22**, 34), pl. 236.
Carrera, 19 Je. 1880. II. **11**, 410 (**24**, 11), pl. 124. Ad. **11**, 567 (**24**, 168), pl. 158.
Carrara. 20 Ag. 1880. II, **11**, 574 (**24**, 175), pls. 161, 162.
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Dainesi. 29 Jl. 1881. II, **12**, 685 (**26**, 235), pl. 163.
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— **Bianchi e Marini.** 26 D. 1877. II, **8**, 739 (**19**, 329), pl. 197.
— **Chavanne.** 30 Ja. 1882. II, **13**, 72 (**27**, 344), pl. 19.
— **Déroche.** 21 Mr. 1865. I, **2**, 78 (**6**, 62), pl. 16.
— **Droz.** 6 Ap. 1866. I, **3**, 85 (**6**, 411), pl. 29.
— **Gontard.** 27 Ap. 1870. II, **1**, 173 (**10**, 173), pl. 39.
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— **Guyot.** 4 Mr. 1870. II, **1**, 84 (**10**, 84), pl. 18.
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— **Junod-Pattus.** 22 Jl. 1876. II, **7**, 368 (**17**, 320), pl. 91.
— **Laederich.** 30 S. 1863. (**4**, 91.)* Ad. I, **1**, 358 (**5**, 295), pl. 65.
— **Lequin et Yersin.** 31 D. 1855. (**1**, 119.)* (*Sardinia.*)
— **Theurer.** 17 Ja. 1866. I, **3**, 6 (**6**, 332), pl. 4. Ad. **3**, 175 (**7**, 1), pl. 56.
— **Tillière.** 30 Je. 1859. (**2**, 257.)* (*Sardinia.*)
— **Vuillemin.** 28 My. 1881. II, **12**, 448 (**25**, 498), pl. 108.
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— **Ceruti.** 30 Je. 1858. (**2**, 112.)* (*Sardinia.*)
— **Costa.** 26 Ag. 1871. II, **2**, 279 (**11**, 201), pl. 59.
— **Flament.** 30 Je. 1873. II, **4**, 308 (**13**, 288), pl. 83.
— **Frandsen.** 6 D. 1879. II, **10**, 815 (**23**, 15), pl. 230. Ad. **11**, 365 (**23**, 466), pl. 103.
— **Gandiglio.** 30 Mr. 1878. II, **9**, 175 (**20**, 30), pl. 42.
— **Goodson.** 13 Ag. 1881. II, **12**, 743 (**26**, 293), pl. 195.
— **Henneberg e Herzberg.** 12 D. 1881. II, **12**, 1090 (**27**, 140), pl. 297.
— **James ed al.** 17 Jl. 1868. I, **5**, 227 (**8**, 297), pl. 68.
— **Kolbe e Coleridge.** 21 Ap. 1873. II, **4**, 189 (**13**, 169), pl. 51.
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— **Lossa.** 22 O. 1872. II, **3**, 475 (**12**, 375), pl. 112.
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— **Lossa.** 20 Jl. 1877. II, **8**, 416 (**19**, 6), pl. 109.
— **Lossa.** 28 Ag. 1878. II, **9**, 535 (**20**, 390), pl. 164.
— **Lossa e Negrini.** 25 S. 1880. II, **11**, 651 (**24**, 252), pl. 189.
— **Meloncini.** 14 D. 1872. II, **3**, 543 (**12**, 443), pl. 131.
— **Meloncini.** 12 D. 1876. II, **7**, 588 (**18**, 41), pl. 152.
— **Meloncini.** 14 D. 1881. II, **12**, 1114 (**27**, 164), pl. 299.
— **Mosca.** 14 S. 1872. II, **3**, 415 (**12**, 315), pl. 101.
— **Pearson.** 23 Ja. 1875. II, **6**, 29 (**15**, 297), pl. 8.
— **Poli.** 15 O. 1873. II, **4**, 502 (**13**, 482), pl. 142.
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— **Spezzani.** 22 F. 1870. II, **1**, 72 (**10**, 72), pl. 14. Ad. **1**, 343 (**10**, 343), pl. 87.
— **Synge.** 15 O. 1873. II, **4**, 509 (**13**, 489), pl. 145—Ex. **5**, 628 (**15**, 237).
— **Tripaglia padre e figlio.** 15 N. 1880. II, **11**, 806 (**24**, 407), pl. 233.
— **Volpe e de Franceschi.** 30 Ja. 1882. II, **13**, 62 (**27**, 334), pl. 16.
— basin. **Caliendo.** 4 S. 1880. II, **11**, 619 (**24**, 210), pl. 171.
— collector. **Ghirardi.** 25 My. 1877. II, **8**, 285 (**18**, 375), pl. 77—Ex. **12**, 599 (**26**, 149).
— disinfecting. **Bacigalupo.** 29 Je. 1867. I, **4**, 24 (**7**, 351), pl. 67. Ad. **4**, 401 (**8**, 42), pl. 121.
— — **Baker.** 28 Ag. 1872. II, **4**, 411 (**13**, 391), pl. 109—Ex. **5**, 338 (**14**, 447).
— indicator. **François.** 23 Ag. 1881. II, **13**, 761 (**26**, 311), pl. 198.
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— — **Mangeon.** 12 Mr. 1866. I, **3**. 49 (**6**, 375), pl. 14.
— — **Moser.** 10 F. 1872. II, **3**, 42 (**11**, 442), pl. 10.
— — **Paret.** 15 Je. 1867. I, **4**, 196 (**7**, 336), pl. 52.
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— trap. **Cianferoni.** 9 N. 1878. II, **9**, 682 (**21**, 37), pl. 208.
— — **Ghirardi.** 3 Mr. 1873. II, **4**, 105 (**13**, 85), pl. 28.
— ventilating. **Hirsche.** 3 Mr. 1881. II, **12**, 152 (**25**, 202), pl. 37.
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course drift catcher. **Valle.** 14 Ja. 1876. II, **7**, 24 (**16**, 476), pl. 5.
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— motor. **Stewart.** 31 D. 1878. II, **9**, 762 (**21**, 117), pl. 235.
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— **Lazzolo, Predavalle ed Odone.** 31 Mr. 1863. (**3**, 42.) Ad. (**1**, 133).*
— **Normandy.** 31 Mr. 1859. (**2**, 193.)* (*Sardinia.*)
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— **Franco.** 30 S. 1858. (**2**, 146.)* (*Sardinia.*)
— **Green.** 27 S. 1879. II, **10**, 640 (**22**, 340), pl. 176.
— **Morrel.** 22 D. 1875. II, **6**, 656 (**16**, 424), pl. 164.
— **Mottura.** 29 S. 1877. II, **8**, 569 (**19**, 159), pl. 41. Ad. **12**, 1167 (**27**, 217).
— **Newton,** 3 Je. 1876. II, **7**, 269 (**17**, 221), pl. 64.
— **Wright.** 22 Mr. 1882. II, **13**, 221 (**27**, 493), pl. 64.
— fountains. **Böckmann.** 30 S. 1880. II, **11**, 683 (**24**, 284), pls. 196, 197.
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— **Macri.** 26 D. 1877. II, **8**, 735 (**19**, 325), pl. 197.
— **Sangiovanni ed al.** 14 Mr. 1868. I, **5**, 52 (**8**, 122), pl. 14.
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— by steam. **Galliani, Santini e Vassmus.** 23 N. 1869. I, **6**, 433 (**9**, 449), pl. 141.
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— **Bertuccioli.** 23 Je. 1879. II, **10**, 385 (**22**, 85), pl. 109.
— **Chizzolini.** 30 Ap. 1875. II, **6**, 216 (**15**, 484), pl. 45.
— **Chizzolini.** 6 D. 1879. II, **10**, 801 (**23**, 1), pl. 227.
— **Cianferoni.** 30 Ja. 1875. II, **6**, 40 (**15**, 308), pl. 10.
— **Cianferoni.** 3 Je. 1875. II, **6**, 277 (**16**, 45), pl. 61.
— **Costantini.** 18 Ag. 1875. II, **6**, 437 (**16**, 205), pl. 101.
— **Franzi.** 31 D. 1859. (**2**, 301.)* (*Sardinia.*)
— **Fumaroli e Guidi.** 9 O. 1873. II, **4**, 490 (**13**, 470), pl. 135.

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— **Di Gaeta.** 22 D. 1868. I, **5**, 438 (**9**, 9).
— **Gasparini.** 28 Je. 1878. II, **9**, 402 (**20**, 257), pl. 117.
— **Gastaldon.** 25 N. 1869. I, **6**, 442 (**9**, 458), pl. 144.
— **Gastaldon.** 25 Je. 1875. II, **6**, 344 (**16**, 112), pl. 74.
— **Marçais.** 14 Je. 1877. II, **8**, 342 (**18**, 432), pl. 94.
— **Monti.** 3 Ag. 1881. II, **12**, 718 (**26**, 268), pl. 186.
— **Morisani.** 29 Jl. 1874. II, **5**, 357 (**14**, 466), pl. 82.
— **Paolo.** 19 Ap. 1873. II, **4**, 176 (**13**, 156), pl. 47—Ex. **5**, 27 (**14**, 136).
— **Pattison.** 15 Ap. 1874. II, **5**, 165 (**14**, 274), pl. 33.
— **Van Roÿen.** 22 Ja. 1868. I, **5**, 2 (**8**, 72), pls. 1, 2—Ex. **5**, 82 (**8**, 152).
— **Van Roÿen.** 23 Mr. 1869. I, **6**, 118 (**9**, 134), pls. 38, 39—Ex. II, **2**, 18 (**10**, 450); **3**, 117 (**12**, 17).
— **Sigl.** 26 F. 1876. II, **7**, 86 (**17**, 36), pl. 22.
— **Volebele.** 11 Ja. 1873. II, **4**, 12 (**12**, 492), pl. 4.
— perpetual motion. **Tagliafico.** 7 Je. 1879. II, **10**, 343 (**22**, 43), pl. 96—Ex. **12**, 643 (**26**, 193).
— pneumatic. **Zanzi.** 19 Je. 1871. II, **2**, 173 (**11**, 95), pl. 37.
— turbine. **Bianchi.** 25 My. 1880. II, **11**, 346 (**23**, 447), pl. 95.
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— canal, etc. **Bell.** 23 Ap. 1866. I, **3**, 114 (**6**, 440), pl. **37**.
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— **Banco.** 22 Mr. 1876. II, **7**, 124 (**17**, 76), pl. 29.
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— **Banco e Sinibaldi.** 25 My. 1877. II, **8**, 294 (**18**, 384), pl. 80.
— **Berhaut.** 20 S. 1880. II, **11**, 641 (**24**, 242), pl. 182.
— **Bosshard.** 2 Mr. 1881. II, **12**, 141 (**25**, 191), pl. 36.
— **Brandon.** 23 Ap. 1878. II, **9**, 216 (**20**, 71), pl. 53.
— **Chameroy.** 16 Je. 1868. I, **5**, 205 (**8**, 275), pl. 62.
— **Chameroy.** 2 Mr. 1870. II, **1**, 76 (**10**, 76), pl. 16.
— **Einenkel.** 7 F. 1879. II, **10**, 51 (**21**, 251), pl. 15.
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— **Pischer.** 27 O. 1873. II, **4**, 529 (**14**, 9), pl. 148.
— **Haas.** 18 Jl. 1878. II, **9**, 446 (**20**, 301), pl. 132—Ex. **10**, 439 (**22**, 139).
— **Isaura y Fargas, Garcia y Corbera e Barrufet y Veciana.** 10 Ag. 1881. II, **12**, 733 (**26**, 283), pl. 188.
— **Jacquet.** 31 Mr. 1882. II, **13**, 262 (**28**, 34), pl. 71.
— **Larmaraud.** 22 Jl. 1876. II, **7**, 357 (**17**, 309), pls. 88, 89.
— **Leopolder.** 22 F. 1876. II, **7**, 69 (**17**, 21), pl. 17.
— **McParland.** 14 Ja. 1874. II, **5**, 11 (**14**, 120), pl. 1.
— **Piccard.** 19 Ja. 1873. II, **4**, 24 (**13**, 4), pl. 3—Ex. **4**, 620 (**14**, 100), pl. 170.
— **Richelmi.** 20 Jl. 1871. II, **2**, 224 (**11**, 156), pl. 49—Ex. **3**, 455 (**12**, 355).
— **Ruggeri.** 23 Je. 1879. II, **10**, 386 (**22**, 86), pl. 95.
— **Società Michel Greyveldinger e Comp.** 23 N. 1869. I, **6**, 431 (**9**, 447), pl. 139.
— **Società Tedesca dei lavori idraulici.** 17 S. 1875. II, **6**, 494 (**16**, 262), pl. 121—Ex. **8**, 592 (**19**, 182).
— **Tardá y Puig** (Ruiz ?). 20 S. 1880. II, **11**, 640 (**24**, 241), pl. 186.
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— **Zappardi.** 7 Je. 1879. II, **10**, 337 (**22**, 37), pl. 93.
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— — **Ariano.** 12 Mr. 1866. I, **3**, 59 (**6**, 385), pl. 16.
— — **Nolden.** 30 Je. 1873. II, **4**, 311 (**13**, 291), pl. 83.
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— **Boltri.** 28 Ap. 1874. II, **5**, 194 (**14**, 203), pl. 42.
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— **Canepa.** 31 Ag. 1868. I, **5**, 292 (**8**, 362), pl. 82—Ex. II, **4**, 518 (**13**, 498).
— **Conte.** 11 Jl. 1876. II, **17**, 340 (**17**, 292), pl. 79.
— **Ellershausen.** 2 Je. 1870. II, **1**, 230 (**10**, 230), pl. 57.
— **Fantario.** 17 S. 1875. II, **6**, 488 (**16**, 256), pls. 117, 118.
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— **Viglino.** 8 Ap. 1872. II, **3**, 129 (**12**, 29), pl. 40.
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— feed regulator. **Piletta.** 7 My. 1875. II, **6**, 219 (**15**, 487), pl. 46.
— floating. **Faraut.** 30 D. 1864. I, **1**, 556 (**5**, 493), pl. 96.
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— regulator. **Schrieder.** 23 F. 1881. II, **12**, 97 (**25**, 147), pl. 25.
— — **Vercella-Barbis.** 30 N. 1873. II, **4**, 577 (**14**, 57), pl. 157.
— turbine. **Bacigalupo.** 30 Je. 1857. (**1**, 401.)* (*Sardinia.*)
— — **Davoglio-Maggi.** 20 Ap. 1881. II, **12**, 336 (**25**, 386), pl. 78.
— — **de Fontaine.** 30 S. 1855. (**1**, 94.)* (*Sardinia.*)
— — **Guyet.** 30 S. 1859. (**2**, 262.)* (*Sardinia.*)
— — **Joly.** 10 My. 1880. II, **11**, 293 (**23**, 394), pl. 84.
— — **Larger.** 30 D. 1860. (**2**, 461.)* (*Sardinia.*)
— — **Larger.** 15 Ap. 1867. I, **4**, 114 (**7**, 294), pl. 37.
— — **Leprince.** 16 Ag. 1879. II, **10**, 545 (**22**, 245), pl. 154.
— — **Nagel e Kaemp.** 22 O. 1874. II, **5**, 495 (**15**, 107), pl. 118.
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— **Goldberger e figli.** 31 Ja. 1880. II, **11**, 51 (**23**, 152).
— **Milanese.** 26 Je. 1877. II, **8**, 359 (**18**, 444)—Ex. **9**, 435 (**20**, 290).
— **Patella.** 2 O. 1872. II, **3**, 454 (**12**, 354).
— and clothes. **Casali.** 9 D. 1870. II, **1**, 402 (**10**, 402).
— yarn, leather, and hides. **Milanese.** 2 F. 1871. II, **2**, 26 (**10**, 448)—Ex. **5**, 170 (**14**, 279).
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— **Menotti.** 23 Mr. 1854. 71.* (*Sardinia.*)
— **Parone.** 20 Jl. 1877. II, **8**, 420 (**19**, 10).
— **Vanel.** 10 F. 1872. II, **3**, 43 (**11**, 443).
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— compound for. **Rosa.** 18 O. 1878. II, **9**, 648 (**21**, 3).
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— **Bettinelli.** 26 F. 1876. II, **7**, 84 (**17**, 36), pl. 22.
— **Brussaut.** 30 Je. 1858. (**2**, 71.)* (*Sardinia.*)
— **Buzzetti.** 20 Je. 1881. II, **12**, 547 (**26**, 97), pl. 133.
— **Catenot.** 30 D. 1862. (**3**, 197)*—Ex. I, **1**, 297 (**5**, 233).
— **Catenot.** 31 D. 1862. (**3**, 198)*—Ex. I, **1**, 296 (**5**, 232).
— **Catenot.** 5 Jl. 1864. I, **1**, 328 (**5**, 264), pl. 55—Ex. **4**, 226 (**7**, 366).
— **Chameroy.** 26 Jl. 1880. II, **11**, 512 (**24**, 113), pl. 140.
— **Chameroy.** 31 Ja. 1881. II, **12**, 60 (**25**, 110), pl. 17.
— **Conlon.** 19 Je. 1877. II, **8**, 346 (**18**, 436), pl. 94.
— **Falcot et Berthelon.** 31 Mr. 1865. (**3**, 432.)*
— **Falcot, Klein et Berthelon.** 31 D. 1861. (**3**, 158.)*
— **Falcot, Klein et Berthelon.** 31 D. 1861. (**3**, 163.)*
— **Hess.** 17 My. 1875. II, **6**, 257 (**16**, 25), pl. 56.
— **Juliard-Dunial.** 16 Mr. 1882. II, **13**, 201 (**27**, 473), pl. 55.
— **Kennedy.** 7 S. 1869. I, **6**, 334 (**9**, 350), pls. 111, 112.
— **Martinelli.** 25 F. 1881. II, **12**, 121 (**25**, 171), pl. 29. Ad. **12**, 840 (**25**, 171), pl. 224.
— **Meriggioli e Furlani.** 30 Je. 1863. (**3**, 486.)*
— **Mongino.** 30 S. 1876. II, **7**, 488 (**17**, 441), pl. 122.
— **Nazeraux.** 30 Ap. 1875. II, **6**, 212 (**15**, 480), pl. 44.
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— **Ollearo.** 27 My. 1873. II, **4**, 340 (**13**, 220), pl. 64.
— **Pellegrino.** 6 My. 1867. I, **4**, 142 (**7**, 282), pl. 42.
— **Picco.** 31 Mr. 1860. (**2**, 323.)* (*Sardinia.*)
— **Pollavini ed al.** 11 Mr. 1869. I, **6**, 89 (**9**, 105), pl. 24.
— **Ponsati.** 30 Je. 1860. (**2**, 374.)* (*Sardinia.*)
— **Romano.** 16 F. 1870. II, **1**, 69 (**10**, 69), pl. 14.
— **Subra.** 30 Je. 1881. II, **12**, 587 (**26**, 109), pl. 145.
— **Taurines.** 31 D. 1861. (**3**, 209)*—Ex. I, **1**, 382 (**5**, 319); **4**, 425 (**8**, 66).
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— — **Opessi.** 27 D. 1881. II, **12**, 1168 (**27**, 218), pl. 327.
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— — **Oestreich.** 14 Ja. 1882. II, **13**, 22 (**27**, 294), pl. 6.
— registering. **Bazzeghin.** 13 Ag. 1875. II, **6**, 432 (**16**, 200), pl. 100—Ex. **8**, 595 (**19**, 185).
— — **Canzé.** 25 Mr. 1881. II, **12**, 226 (**25**, 276), pl. 55.
— — **Chameroy.** 29 Jl. 1875. II, **6**, 398 (**16**, 166), pl. 88.
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— **Calandra.** 30 S. 1863. (**4**, 63)*—Ex. I, **1**, 321 (**5**, 257); **4**, 40 (**7**, 179). Ad. **5**, 6 (**8**, 76)—Ex. **6**, 295 (**9**, 311). Ad. II, **1**, 403 (**10**, 403), pl. 101—Ex. II, **2**, 4 (**10**, 426).
— **Prudhomme.** 31 D. 1862. (**3**, 407.)*
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— **Hortensen.** 4 Ag. 1874. II, **5**, 374 (**14**, 483), pl. 87.
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— — **Wells.** 30 Je. 1863. (**4**, 40.)*
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— artesian. **Bonariva.** 24 S. 1881. II, **12**, 837 (**26**, 387), pl. 225.
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— — artesian. **de Giovanni.** 27 Ap. 1871. II, **2**, 112 (**11**, 34), pl. 17.
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— — **Società per la costruzione di machine Humbolt.** 4 S. 1874. II, **5**, 436 (**15**, 45), pl. 103.
— — **Testa.** 15 D. 1874. II, **5**, 601 (**15**, 210), pl. 144.
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— **Sutermeister.** 29 Ag. 1876. II, **7**, 423 (**17**, 375), pl. 106—Ex. **12**, 887 (**26**, 437).
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— **Richelmi.** 15 Ag. 1872. II, **3**, 363 (**12**, 263), pl. 92. Ad. **4**, 197 (**13**, 177), pl. 53.
— fastener. **Colombani.** 12 Mr. 1874. II, **5**, 92 (**14**, 201), pl. 19.
— operating. **Hall.** 11 D. 1873. II, **4**, 584 (**14**, 64), pl. 161.
WINE. **Alliata.** 21 O. 1880. II, **11**, 734 (**24**, 335).
Alliata. 28 F. 1883. II, **13**, 143 (**27**, 415).
artificial champagne. **de Bernardini.** 27 My. 1874. II, **5**, 247 (**14**, 356).
barrel sulphurizer. **Micheletti.** 30 Ap. 1880. II, **11**, 271 (**23**, 372), pl. 77.

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color test. **de Ballester y de Torres.** 24 D. 1880. II, **11**, 896 (**24**, 497), pl. 256.
coloring matter. **Carpené.** 29 Ap. 1879. II, **10**, 256 (**21**, 456). Ad. **10**, 708 (**22**, 408)—Ex. **12**, 249 (**25**, 299). Ad. **13**, 365 (**28**, 137).
concentrating. **Chizzolini.** 18 Ap. 1876. II, **7**, 189 (**17**, 141).
cooler. **Tarditi.** 7 My. 1868. I, **5**, 117 (**8**, 187), pl. 28.
decanting and sulphurizing apparatus. **Pestellini.** 20 Mr. 1869. I, **6**, 103 (**9**, 119), pl. 22.
decanting apparatus. **Borghesi.** 2 My. 1868. I, **5**, 101 (**8**, 171), pl. 23—Ex. **5**, 197 (**8**, 267).
desulphurizing apparatus. **Tubi.** 26 N. 1867. I, **4**, 382 (**8**, 23), pl. 117.
distilling apparatus. **Solferini.** 25 F. 1881. II, **12**, 123 (**25**, 173), pl. 30.
manufacture. **Alloatti.** 7 Jl. 1874. II, **5**, 335 (**14**, 444).
— **Reihlen.** 20 My. 1880. II, **11**, 322 (**23**, 423)—Ex. **12**, 248 (**25**, 298); **13**, 235 (**28**, 17). Ad. **13**, 363 (**28**, 135).
preserving apparatus. **Michele.** 22 N. 1869. I, **6**, 425 (**9**, 441), pl. 137.
preserving in bottles. **Lossa.** 16 Jl. 1872. II, **3**, 319 (**12**, 219), pl. 80.
preserving vessel. **Bertolio.** 8 Jl. 1872. II, **3**, 291 (**12**, 191).
press. **Benini.** 20 Ag. 1877. II, **8**, 491 (**19**, 81), pl. 126.
— **Folli.** 13 Jl. 1872. II, **3**, 305 (**12**, 205), pl. 78.
— **Leduc.** 24 N. 1868. I, **5**, 369 (**8**, 440), pl. 104.
— **Lombardo.** 19 Jl. 1875. II, **6**, 382 (**16**, 150), pl. 84.
— **de Morsier.** 16 Ag. 1879. II, **10**, 558 (**22**, 258), pl. 156.
— **Mure.** 30 N. 1875. II, **6**, 630 (**16**, 398), pl. 154.
— **Mure.** 12 D. 1878. II, **9**, 766 (**21**, 121), pl. 231.
— **Mure e Marmonier.** 31 Ja. 1879. II, **10**, 23 (**21**, 223), pl. 8.
— **Oomens.** 23 O. 1869. I, **6**, 391 (**9**, 407), pl. 130—Ex. II, **6**, 107 (**15**, 375).
— **Rocher.** 21 Ap. 1870. II, **1**, 160 (**10**, 160), pl. 37.
— **Vignetta.** 27 S. 1879. II, **10**, 620 (**22**, 320), pl. 174.
— centrifugal. **Leduc.** 29 D. 1874. II, **5**, 639 (**15**, 248), pl. 154.
— portable. **Bianchetta.** 29 N. 1865. I, **2**, 321 (**6**, 305), pl. 99—Ex. **5**, 442 (**9**, 13).
refuse and snow press. **Bianchetta.** 31 Mr. 1868. I, **5**, 66 (**8**, 136).
sparkling, manufacture. **Lété.** 31 D. 1861. (**3**, 181)*—Ex. I, **1**, 550 (**5**, 487); **4**, 21 (**7**, 160).
WINNOWING MACHINE. **Balat.** 15 O. 1873. II, **4**, 514 (**13**, 494), pl. 144.
Ighina. 31 Mr. 1862. (**3**, 226)*—Ex. I, **1**, 404 (**5**, 341). Ad. I, **1**, 406 (**5**, 343), pl. 45.
Mure. 8 F. 1878. II, **9**, 49 (**19**, 404), pl. 12.
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and bolt. **Bougleux.** 5 Jl. 1864. I, **1**, 329 (**5**, 265), pl. 40.
WIRE barbing machine. **Hunt e Putnam.** 25 Jl. 1878. II, **9**, 468 (**20**, 323), pls. 140, 141.
beading machine. **Joannés.** 15 Mr. 1876. II, **7**, 120 (**17**, 72), pl. 28.
coating. **Serravalle.** 31 Ag. 1881. II, **12**, 797 (**26**, 347), pl. 209.
drawing. **Mühlbacher.** 31 D. 1879. II, **10**, 876 (**23**, 76), pl. 249.
— **Roy.** 22 Jl. 1880. II, **11**, 503 (**24**, 104), pl. 142.
— machine. **Venturi.** 28 Ag. 1871. II, **2**, 284 (**11**, 206), pl. 61.
fabric. **Bencini.** 26 Ag. 1879. II, **10**, 554 (**22**, 254), pl. 156.
— **Fornara e Comp.** 5 My. 1879. II, **10**, 260 (**21**, 460), pl. 74.
— weaving. **Rikler.** 29 N. 1865. I, **2**, 324 (**6**, 308).
fence machine. **Pictat.** 17 Je. 1872. II, **3**, 248 (**12**, 148), pl. 67. Ad. **5**, 651 (**15**, 260), pl. 156—Ex. **9**, 436 (**20**, 291).
manufacture. **Wright.** 30 D. 1859. (**2**, 294.)* (*Sardinia.*)
netting machine. **Beltrami.** 31 O. 1871. II, **2**, 387 (**11**, 309), pl. 83.
reheating for cards. **Heusch.** 10 Ja. 1881. II, **13**, 4 (**27**, 276), pl. 1.

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stretcher. **Arrighetti.** 9 Mr. 1876. II, **7**, 94 (**17**, 46), pl. 21.
— **Bosia.** 30 Mr. 1877. II, **8**, 161 (**18**, 251), pl. 47.
— **Wolf.** 20 Ag. 1880. II, **11**, 576 (**24**, 177), pl. 162.
tack manufacture. **Garassino.** 30 Je. 1858. (**2**, 88.)* (*Sardinia.*)
winding machine. **Ginnasi Paulucci de Calboli.** 23 F. 1881. II, **12**, 103 (**25**, 153), pl. 24.
work. **Jenkins.** 31 Mr. 1880. II, **11**, 198 (**23**, 299), pls. 58, 59.
WOOD bending and straightening, steam. **Loria.** 29 Jl. 1875. II, **6**, 395 (**16**, 162), pl. 89.
bronzing. **Bottger.** 23 Ag. 1878. II, **9**, 523 (**20**, 378).
carbonizing. **Tourde.** 31 D. 1862. (**3**, 404)*—Ex. **1**, 184 (**5**, 120).
— apparatus. **Bichon et Comp.** 19 O. 1878. II, **9**, 645 (**20**, 500), pl. 200.
— — **Hugon.** 30 D. 1864. I, **1**, 546 (**5**, 483), pl. 85—Ex. **4**, 422 (**8**, 63).
carving machine. **Società Fombuena.** 30 Jl. 1866. I, **3**, 178 (**7**, 4), pls. 58, 59.
coating. **Rossi.** 3 Mr. 1881. II, **12**, 155 (**25**, 205).
compressor. **Marchi.** 26 Jl. 1864. I, **1**, 383 (**5**, 320), pl. 39.
cutting. **Trevisan.** 27 Je. 1876. II, **7**, 307 (**17**, 259). Ad. **7**, 578 (**18**, 31), pl. 151.
— machine. **Ellis.** 19 My. 1873. II, **4**, 236 (**13**, 216), pl. 63.
— — **Flagler.** 25 Jl. 1877. II, **8**, 431 (**19**, 21), pl. 114.
— — **MacNeile.** 23 Je. 1873. II, **4**, 295 (**13**, 275), pl. 80.
disintegrator. **Demailly.** 25 O. 1871. II, **2**, 374 (**11**, 296), pl. 83.
distilling. **Parish.** 15 O. 1873. II, **4**, 505 (**13**, 485), pl. 144. Ad. **5**, 164 (**14**, 273).
elastic rendering. **de La Sala.** 27 Ag. 1879. II, **10**, 574 (**22**, 274).
embossing. **Bugatti.** 20 Ap. 1878. II, **9**, 208 (**20**, 63).
— **Paloschi.** 7 F. 1876. II, **7**, 56 (**17**, 8), pl. 14.
grinding machine. **Graziosi.** 12 Je. 1876. II, **7**, 285 (**17**, 237), pl. 66.
— — **Société pour la fabrication de pâte de bois.** 11 My. 1881. II, **12**, 404 (**25**, 454), pl. 100.
impregnating. **Archinard.** 22 F. 1876. II, **7**, 78 (**17**, 30).
— **Blythe.** 11 Ap. 1874. II, **5**, 150 (**14**, 259), pl. 34.
— **Fornera.** 31 D. 1861. (**3**, 145.)*
— **Hatzfeld.** 3 Mr. 1875. II, **6**, 90 (**15**, 359).
— by electricity. **Bazin.** 21 Mr. 1865. I, **2**, 89 (**6**, 73), pl. 17.
— compound. **Mancion.** 30 Ja. 1875. II, **6**, 44 (**15**, 312)—Ex. **6**, 551 (**16**, 319); **12**, 239 (**25**, 289).
— molding. **Gavazzi.** 31 Mr. 1860. (**2**, 343.)* (*Sardinia.*)
— — **Paloschi.** 13 Ja. 1875. II, **6**, 22 (**15**, 290).
ornamenting. **Nerini.** 28 Ag. 1877. II. **8**, 517 (**19**, 107).
painting and dyeing. **Batonnier.** 31 Mr. 1881. II, **12**, 269 (**25**, 319).
plastic. **Muratori.** 13 S. 1871. II, **2**, 314 (**11**, 236).
preparing. **Légé et Pironnet.** 30 Je. 1858. (**2**, 64). Ad. (**1**, 61.)* (*Sardinia.*)
preserving. **de Lapparent.** 30 S. 1862. (**3**, 321.)* Ad. I, **1**, 400 (**5**, 321), pl. 39—Ex. **1**, 401 (**5**, 322); **5**, 344 (**8**, 414).
— compound. **Vivien fratelli.** 13 N. 1871. II, **2**, 402 (**11**, 324).
pulp bleaching. **Société pour la fabrication de la pâte de bois.** 16 Ag. 1879. II, **10**. 541 (**22**, 241). Al. **10**, 822 (**23**, 22)—Ex. **12**, 447 (**25**, 497).
pulping machine. **Arienta.** 31 D. 1855. (**1**, 79.)* (*Sardinia.*)
— **Cretté.** 31 D. 1857. (**2**, 5).* (*Sardinia.*)
splitting machine. **Farault.** 31 Mr. 1863. (**3**, 451.) Ad. (**1**, 136)*—Ex. I, **1**, 77 (**5**, 13). Ad. **1**, 554 (**5**, 492), pl. 93—Ex. **3**, 115 (**6**, 441).
— kindling. **Gasparini.** 23 Mr. 1867. I, **4**, 82 (**7**, 221), pl. 27.
— — **Gasparini.** 11 Jl. 1867. I, **4**, 225 (**7**, 365), pl. 74.
WOODEN box, Tyrolese, cord for fastening. **Toussin.** 19 Je. 1880. II, **11**, 412 (**24**, 13), pl. 123.
WOOL and cotton. **Paernio.** 13 Ap. 1869. I, **6**, 129 (**9**, 145).
and jute fabric. **Leclercq.** 10 My. 1880. II, **11**, 289 (**23**, 390).
bleaching and removing vegetable matters. **Dandier père et fils.** 27 Je. 1876. II, **7**, 316 (**17**, 268).
carbonizing vegetable fibers. **Michel.** 28 O. 1875. II, **6**, 578 (**16**, 346). Ad. **7**, 387 (**17**, 339), pl. 98.
— **Ricci.** 11 Ja. 1882. II, **13**, 14 (**27**, 286), pl. 2.
— **Ugone fratelli.** 30 N. 1875. II, **6**, 632 (**16**, 400), pl. 155. Ad. **7**, 50 (**17**, 2), pl. 13.
carding divider. **Bède e Comp.** 15 S. 1873. II, **4**, 452 (**13**, 432), pl. 117.
cleaner. **Platt ed Richardson.** 31 D. 1863. (**3**, 414.)*
cleaning. **Ballatore.** 31 Ag. 1878. II, **9**, 543 (**20**, 398).
— **Valeriani e Forneris.** 24 Ap. 1854. 75.* (*Sardinia.*)
— compound. **Schaller.** 13 Ag. 1867. I, **4**, 281 (**7**, 421).
— on skin. **Fau.** 9 Mr. 1872. II, **3**, 68 (**11**, 468), pl. 19.
cloth, removing vegetable matters. **Martin fils.** 31 D. 1880. II, **11**, 924 (**25**, 25). Ad. **12**, 1062 (**27**, 112), pl. 289.
combing machine. **Meunier.** 22 D. 1873. II, **4**, 608 (**14**, 88), pls. 167, 168.
drier. **Molteni.** 16 Ag. 1871. II, **2**, 261 (**11**, 183), pl. 56.
extracting from mixed fabrics. **Mazza.** 30 Je. 1863. (**4**, 27.)*
fabric. **Francia.** 30 D. 1872. II, **3**, 568 (**12**, 468)—Ex. **7**, 6 (**16**, 458).
gassing. **Raulin.** 10 O. 1877. II, **8**, 579 (**19**, 169), pl. 148.
oiling and braking machine. **Martin.** 20 D. 1866. I, **3**, 298 (**7**, 124), pls. 84, 85—Ex. II, **1**, 86 (**10**, 36).
press. **Lahaussois.** 18 S. 1877. II, **8**, 537 (**19**, 127), pl. 133.
recovering from fabric. **Brade.** 30 S. 1855. (**1**, 75.)* (*Sardinia.*)
removing vegetable fibers. **Brade.** 31 Mr. 1856. (**1**, 173.)* (*Sardinia.*)
— **Guerri.** 18 N. 1879. II, **10**, 765 (**22**, 465).
— **Joly.** 28 Ap. 1874. II, **5**, 193 (**14**, 302).
— **Maître.** 19 Je. 1878. II, **9**, 386 (**20**, 241), pl. 109.
— **Plantrou.** 8 Je. 1877. II, **8**, 326 (**18**, 416). Ad. **8**, 468 (**19**, 58).
— **Société anonyme La Laine.** 21 Mr. 1882. II, **13**, 217 (**27**, 489).
— by steam. **Bertrand.** 14 Ag. 1876. II, **7**, 393 (**17**, 345).
separating from cotton and silk. **Barrouin.** 28 Ja. 1874. II, **5**, 25 (**14**, 134).
separating straw and thistles from. **Larcade.** 28 N. 1868. I, **5**, 386 (**8**, 457), pl. 114.
substitute. **Ferrero.** 21 Ja. 1867. I, **4**, 4 (**7**, 143).
unteazeling. **Sitaîne.** 19 Ag. 1873. II, **4**, 391 (**13**, 371).
vegetable. **Ferro.** 26 Ja. 1869. I, **6**, 28 (**9**, 44).
washer. **Gaggero.** 26 Ag. 1879. II, **10**, 542 (**22**, 242), pl. 154.
WORKSHOP, floating. **Susini.** 31 D. 1857. (**2**, 13.)* (*Sardinia.*)
WOUND dressing apparatus. **Kips.** 12 Je. 1876. II, **7**, 283 (**17**, 235).
WOVEN fabric. **Salietti e Reynero e Comp.** 30 Je. 1858. (**2**, 105.)* (*Sardinia.*)
— broom. **Mannini.** 12 Ap. 1873. II, **4**, 167 (**13**, 147)—Ex. **5**, 171 (**14**, 280).
WRAPPER, newspaper. **Arneri.** 29 N. 1881. II, **12**, 1045 (**27**, 95).
WRENCH. *See also* Screw.
Thompson. 30 Ag. 1879. II, **10**, 580 (**22**, 280), pl. 162.
Truchetti. 22 Mr. 1882. II, **13**, 224 (**27**, 496), pl. 55.
gas-pipe. **Bossi.** 26 F. 1879. II, **10**, 97 (**21**, 297), pl. 27.
WRITING apparatus. **Milani.** 3 S. 1872. II, **3**, 405 (**12**, 305), pl. 102.
desk pocket. **Rollini.** 8 My. 1877. II, **8**, 249 (**18**, 339), pl. 70.
desk press. **Trouillet.** 31 Mr. 1863. (**3**, 416)*—Ex. I, **1**, 374 (**5**, 311).
tablet. **Smalwood.** 30 Je. 1858. (**2**, 102.)* (*Sardinia.*)
YARD parral ship's. **Mantero.** 17 F. 1869. I, **6**, 52 (**9**, 68), pl. 17.
suspending ship's. **Cardinal.** 15 Mr. 1866. I, **3**, 78 (**6**, 404), pl. 17.
YEAST. **Sauer, Sauer e Cachal.** 25 My. 1870. II, **1**, 219 (**10**, 219).

ZINC coating on iron. **Attanasio.** 17 Jl. 1873. II, **4**, 351 (**13**, 331).
coating, wet process. **Domingo.** 18 Je. 1864. I, **1**, 316 (**5**, 252).
compounds treating for pigments. **French.** 14 D. 1881. II, **12**, 1100 (**27**, 150), pl. 298.
cord. **Rossi ed Inge.** 9 F. 1853. 41.* (*Sardinia.*)
engraving. **Ottino e figlio.** 9 F. 1853. 43.* (*Sardinia.*)
extracting. **Maxwell-Lyte.** 28 Jl. 1877. II, **8**, 439 (**19**, 29).
— **Maxwell-Lyte.** 26 Jl. 1879. II, **10**, 505 (**22**, 205), pl. 142.
— **Romby.** 23 Ap. 1880. II, **11**, 246 (**23**, 347), pls. 72, 73.
— **Società di Monteponi.** 12 S. 1881. II, **12**, 811 (**26**, 361).
— from poor ores. **Perpignano.** 28 Mr. 1870. II, **1**, 132 (**10**, 132), pl. 34.
furnace. **Muller et Cie.** 30 Je. 1863. **14**, 29.*
— **Muller et Lencauchez.** 30 D. 1860. (**2**, 452.) Ad. (**1**, 104).* (*Sardinia.*)
— **Società metallurgica per l'esperimento dei procedimenti Ponsard.** 12 Mr. 1872. II, **3**, 84 (**11**, 484), pl. 25.
manufacture. **Parnell.** 8 F. 1878. II, **9**, 65 (**19**, 420).
ore concentrating. **Schischkar e Veil.** 11 My. 1877. II, **8**, 268 (**18**, 358), pl. 75.

ZINC—continued.
ore treating. **von Kramstá eredi e Wiester.** 5 N. 1879. II, **10**, 724 (**22**, 424), pl. 199—Ex, **11**, 933 (**25**, 34); **12**, 1085 (**27**, 135).
— **Maxwell-Lyte.** 30 S. 1880. II, **11**, 677 (**24**, 278), pl. 198. Ad. **11**, 850 (**24**, 451); **12**, 1065 (**27**, 115).
— **Muller et Cie.** 31 D. 1861. (**3**, 176.)*
— **Società metallurgica per l'esperimento dei procedimenti Ponsard.** 12 Mr. 1872. II, **3**, 83 (**11**, 483), pl. 19. Ad. **3**, 220 (**12**, 120), pl. 62; **4**, 156 (**13**, 136), pl. 43.
— by electrolysis. **Létrange.** 26 Ag. 1881. II, **12**, 765 (**26**, 315), pl. 198.
oxide manufacture. **Inge.** 24 F. 1853. 45.* (*Sardinia.*)
— **Krafft e Schischkar.** 25 My. 1880. II, **11**, 339 (**23**, 440).
— **Laur.** 7 N. 1874. II, **5**, 547 (**15**, 156), pl. 125.
— **Lhuillier.** 11 Ap. 1851. 15.* (*Sardinia.*)
— **Schischkar.** 4 My. 1876. II, **7**, 225 (**17**, 177).
refuse utilizing. **Perpignano.** 5 N. 1870. II, **1**, 378 (**10**, 378), pl. 99.
separating, electric. **Parodi e Mascazzini.** 20 Mr. 1880. II, **11**, 161 (**23**, 262).
ZINCOGRAPHY. **Tensi fratelli.** 10 Ag. 1871. II, **2**, 257 (**11**, 179).